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Structure of second page until the end of manuscript is as follow:

- *Introduction* Some paragraphs contain explaining the problem, literature review, object (purpose), importance and necessity of it.
- *Literature review* A review of the literature investigates only related researches chronologically and the results exploit at the end of the section theory matrix or conceptual model that document research variables and Formulate research hypotheses.
- *Methodology* including Methods, data collection tools, population, sample size and sampling methods, analysis and model testing hypothesis, definition of study variables and operational definition of them can be in presented the same section that model testing is represented and there is no need to repeat.
- *Results* including the findings compare it with the findings of previous and interpretation of compliance or inconsistency of findings with research findings and theories.
- *Conclusion* includes a summary of the problem, provide a summary of the results and overall conclusion and recommendations based on the results (policy recommendations is necessary only in applied research and, if necessary, recommendations for future research accordant with the research limitations or how development of current research;
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Editor's Note

I am pleased to announce that the Ferdowsi University of Mashhad is publishing Iranian Journal of Accounting, Auditing & Finance (IJAAF). On behalf of the board of the IJAAF and my co-editors, I am glad to present the Volume 1, Issue 1 of the journal in December 2017; the journal will publish four issues in a year. The board includes experts in the fields of accounting, finance and auditing, all of whom have proven track records of achievement in their respective disciplines. Covering various fields of accounting, *IJAAF* publishes research papers, review papers and practitioner oriented articles that address significant issues as well as those that focus on Asia in particular. Coverage includes but is not limited to:

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Yours faithfully,

Mahdi Moradi

Editor in Chief

Content

IRANIAN JOURNAL OF ACCOUNTING, AUDITING & FINANCE

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Research Article

The Moderator Role of Auditor's Expertise in the Industry on the Relationship between Characteristics of the Audit Committee and Audit Report Lag

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Abstract

Timeliness is a fundamental feature of the relevance of financial reporting information to managers, enabling them to make informed business unit decisions. The purpose of this study was to investigate the role of the moderator of auditor's expertise on the relationship between the audit committee's characteristics and the delay in the audit report. This research is from the point of view of applied research type and the point of view of nature and method, including descriptive and correlational research. The research sample includes 135 companies listed on the Tehran Stock Exchange in the years 2013 to 2017. After controlling the control variables, the hypothesis test's findings showed that the auditor's specialization in the industry negatively correlates the relationship between the audit committee's independence and the audit committee's size and the delay in the audit report.

Keywords: Auditor's Expertise in Industry, Audit Committee, Delay in Audit Report.

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1. Introduction

Qualitative financial reporting features include a timely presentation of audited financial statements. Timeliness is a fundamental feature of financial reporting information's relevance, enabling users to make informed business units' decisions. The information potentially loses its relevance over time. The prolongation and delays of the availability of financial statement information make the information lose its usefulness to economic decisions. The company's timeliness of financial reports can also be considered one of the essential components of reporting quality goals. Past research has shown that a timely financial report increases the content of information and, as a result, affects the company's value (Kogilavani and Marjan, 2013).

Delayed presentation of audited financial statements does not allow timely financial reports to be provided to users. This will also reduce the content of financial information. On the other hand, investors postpone trading activities in securities until financial information is published; therefore, the corporate governance framework in corporations and the audit committees should ensure that material financial reporting items. It is including financial and regulatory information related to investors Main and other shareholders at the right time(Soltana et al., 2014). The delay in the audit report is the number of days between the end of the company's financial year and the audit report's submission date. Overdue delays cause users not to access corporate information and reduce financial statements' information content. Delay in financial reporting has led to a reduction in the quality of profit, increased information asymmetry, and uncertainty about assessing investments (Kamarudin et al., 2018).

Therefore, timely disclosure of financial information through audited financial statements plays an important role in its value and reduces information asymmetry (Lin and Liu, 2009). While the board is responsible for the overall financial statements and disclosure, many companies' corporate governance framework has changed dramatically over the past two decades. Developers, regulators, investors, and researchers emphasize the need for centralized agency, accountability, and oversight of the Audit Committee's preparation and processing of financial statements on an equal and continuous basis. Corporate governance has reformed new laws and guidelines over the past decades. It has strengthened the audit committee's role and responsibilities in the processing and preparation of financial reports. The emergence of the audit committee's importance directly affects the independent auditor's activities and activities, including the time required to publish the audit report (Appah and Emeh, 2013). On the other hand, the auditor's specialty in the industry makes them able to acquire the industry's specific knowledge and experience and a quick familiarity with the client's business environment, thus completing the audit process faster than non-expert auditor. It is, according to past research, can also adjust the relationship between the audit committee's characteristics and the delay in the audit report (Kamarudin et al., 2018). Considering the importance of timely and timely audit reports and identifying the variables that affect it, this study examines the auditor's specialty's specialty in the relationship between the audit committee's characteristics and the delay in the audit report. Since there has not been a similar study in the Iranian environment, this requires an empirical study to allow for better planning based on the findings. Then first, the theoretical foundations of research and then the research background are presented. Afterward, the research method, findings and discussion, and conclusions are presented.

2. Literature Review

One of the important issues that researchers consider as a major financial scandal in large firms in recent years is the important issues for investors: corporate governance. It deals with monitoring the management and separation of the supervision of economic

units from its ownership, and, ultimately, it protects the rights of investors and stakeholders. The study of the causes and circumstances of creating scandals has shown that the lack of management supervision, the imperfect governance of corporate stakeholders on managing affairs and transferring unlimited powers to executives, has provided a beneficial context for their exploitation(Hasas Yeganeh et al., 2014). Moving from solitary ownership to collective ownership has led to new issues in managing financial resources, as Berle-Means (1932) described it as a representation problem. In recent years, financial scandals have shown that corporate governance practices have had weaknesses and weaknesses even in advanced economies. In order to solve this problem, the need for reform and restructuring in corporate governance mechanisms was felt, which led to the emergence of a new paradigm called the Audit Committee on how to manage corporate governance and control following legal requirements in some countries as the audit committee is expected to become a very important part of corporate governance and effective accountability (Habbash, 2010). Abernathy, Beyer, and Masli (2013) also believe that the Audit Committee could increase users' financial statements' credibility and reliability. The audit committee's size can also have a constructive impact on the quality of the financial statements. Larger auditing committees can influence companies and reports published by members using different specializations to conduct more rigorous control over financial reporting procedures (Choi et al., 2004). The Blue Ribbon Committee (1999) recommends that the Audit Committee should have at least three members. A set of broader views, proposed by a larger committee, enables the committee to assess better the rules and more oversight of responsibilities and work performed by independent auditors (Turley and Zaman, 2007). Also, the larger audit committee has a greater body of skills that will improve the quality of the audit report (De Zoort et al., 2003).In addition, the audit committee should be independent of the organization's management to carry out its supervisory role and protect shareholders' interests. If members of the independent audit committee are managers and owners of the organization, they will prevent management from manipulating financial results. Independent directors are in the best position to monitor the financial reporting process and are more capable of coping with management pressures (Bazrafshan et al. ., 2015). The industry's industry expertise also involves developing constructive ideas designed to help entrepreneurs create value-added and provide new perspectives or ideas for some of the issues that the owners face in their respective industries (Alavi Tabari et al., 2013).

Also, the audit report's delay is defined as the period between the end of the company's financial year and the auditor's report date. It is one of the externally visible external variables that allows others to measure the auditor's performance (Bamber et al., 1993). The characteristics of the audit committee can influence the delay in the audit report. It may be adjusted to the industry's specialist auditor's expertise (Kamarudin et al., 2018). The specialty of the auditor in the industry is also the specific knowledge of an industry that is used by an audit firm to help them better understand what the owners of that industry are doing and the audit risks they are (Kend,2008). Previous studies have found that auditors with specialized expertise in the industry have more expertise and experience in discovering errors (Owhoso et al., 2002). They have more access to technology, physical facilities, and organizational and employee management systems that increase audit efficiency and enhance audit quality (Kwon et al., 2007). Industry-specific industry auditors can develop industry-specific knowledge and expertise and become familiar with business customer activities quickly, thus completing audits sooner than their non-expert counterparts (Barzide and Ma'andenchi, 2014). The auditor's expertise in the industry is also related to more audit efficiency (for example, less delay in the audit report) (Habib and Bhuiyan, 2011). Investigations of Alavi Tabari and Arefmanesh (2013), Pourheidari et al., (2015), Barzide and Ma'andenchi (2014), Habib and Bhuiyan (2011), and Dao and

Pham (2014) have concluded that there is a reverse and significant relationship between auditor's expertise in the industry is delayed in the audit report. (Kamarudin et al., 2018). also investigated the auditor's specialty's role as a moderator of the relationship between the audit committee's characteristics and the delay in the audit committee's report. Indeed, the results show that companies audited by industry-specific auditors with larger audit committees, as well as greater independence, delay the audit report because the independence and size of the audit committee shorten the delay in the audit report and this delay with a moderating role. The expertise of the industry in the industry is also negatively corrected and shortened.

Examining the history of the research showed that, for example, Kamarudin et al. (2018) studied the moderating role of the auditor's specialty in the industry on the relationship between the audit committee characteristics and the delay in the audit report for 2014 and 740 companies in Malaysia. The results showed that the auditor's expertise on the relationship between the audit committee's size and the delay in the audit report, the relationship between the audit committee's independence and the audit report's delay, as well as the relationship between the numbers of meetings of the audit committee, are delayed in the audit report Samaha, and Khlif (2017) investigated the factors affecting the delay in reporting the audit. They found that the audit committee's characteristics and the independent auditor and corporate governance factors had a significant contribution to the presentation of the audit report and the timeliness of the information.

Dao and Pham (2014) examined the relationship between audit quality, industry expert auditing, and delay in reporting audits. The auditor's industry expertise undermined the positive relationship between the auditor's report's delay and the short audit turnover.

Al-Khatib and Marjib (2012) investigated the timeliness of the audit report. They found that the profitability, type of audit firm, and firm size had a negative and significant relationship with the audit report's timeliness. Still, the financial leverage with the timeliness of the audit report has a positive and significant relationship.

Habib and Bhuiyan (2011) examined the relationship between the auditor's specialty in the industry and the delay in submitting audit reports to companies admitted to the New Zealand Stock Exchange during 2005 using a multiple regression model. The multivariate regression analysis results showed that the delays in providing the audit report for companies audited by an industry expert are shorter, and accepting international standards would delay the audit report's presentation.

Mohamad-Nor, Shafie, and Wan-Hussin (2010) examined the delays in submitting audit reports to 628 companies admitted to the Malaysian stock exchange in 2002. Using the multiple regression model, the active and large audit committee shortened the delay in providing The report is audited. Still, the audit committee's expertise and independence do not have a meaningful relationship with the audit report's timeliness.

Also, surveys showed that so far in Iran, research that examined "the role of the moderator of the auditor's specialty in the industry regarding the relationship between the characteristics of the audit committee and the delay in the audit report" has not been observed, which requires an empirical review.

3. Methodology

From the perspective of this research's purpose, this research is applied and from the point of view of nature and method, including descriptive and correlational research. The purpose of the research is to apply applied knowledge development in a raw field. In other words, applied research leads to the practical application of knowledge. From the point of view of data collection, post-investigation research is used to analyze the data from descriptive, inferential statistics, the least-squares method used in Eviews software version 9.

3.1. Research hypotheses

According to theoretical foundations and research background, the research hypotheses are as follows:

The first hypothesis: The auditor's specialization in the industry as a moderator modifies the relationship between the audit committee's size and the audit report delay.

The second main hypothesis is that the auditor's expertise as a moderator modifies the relationship between the audit committee's independence and the audit committee's report delay.

3.2. Society and research sample

The statistical population of the study was limited to all companies that have been accepted at the Tehran Stock Exchange since the beginning of the fiscal year 2013 and have attained the following characteristics by the end of the fiscal year 2017:

- In order to ensure comparability, their financial period will end in March.
- During the years 2013 to 2017, there is no change in the financial year's activity or change.
- It is not part of banks or financial institutions, insurers, leasing companies, or investment companies because the nature of their specific activity may be different from the relevance of the factors under study in Iran to research for such institutions and not to be indebted to others.
- Their information is available.
- There is no trading interruption because the trading interruption can distort test results.

Given the limitations, 135 eligible companies were found to be 675 years old.

3.3. Research variables

In this research, four independent variables (the characteristics of the audit committee including independence and size), dependent (delay in the audit report), moderator (industry expert's expertise), and control (size, leverage, asset yield, and size of the audit firm) are used. Which method of measurement will be described below.

3.3.1. Independent variable

The audit committee's size, which indicates the number of members of the audit committee, consists of 3 to 5 people in Iran.

The independence of the audit committee, which is equal to the percentage of independent members of the audit committee, is calculated by dividing the number of independent members of the committee by the number of its members.

3.3.2. Dependent variable

The delay in the audit report is equal to the difference in the number of days between the end of the company's financial year and the day the independent auditor signs the audit report.

3.3.3. Moderator variable

The auditor's expertise in the standard industry is introduced using two approaches to market share and the audit firm (Nazemiardakani, 2009). The market share of the audit firm is also calculated as the 11th according to the Palmrose model (1986):

$$(1 / (FN)) * (1/2) \leq (SR / (SRT)) \text{ Relationship 1}$$

In which: SR is the collection of assets of all the owners of a specific audit institution in a particular industry, divided by the total assets of this industry's owners (SRT). According to Palmrose (1986), the auditor is considered as a specialist in the industry

when their market share (right-hand equation) exceeds the one-to-one multiplication of the number of firms in the industry (FN) in one direction (the equation on the left) Be If the audit firm is an industry specialist, then the synthetic variable is one and otherwise, the zero variable will be used.

3.3.4. Control variables

Company size: Increasing company size is expected to increase the audit report's delay (Samaha and Khlif, 2017). This variable is calculated through the natural logarithm of the total assets.

Financial leverage: The high debt ratio increases the likelihood of a company unable to repay debt and meet its obligations. In this case, auditors are worried that the company may be less likely to report its debt; therefore, auditors design and implement audit procedures to reduce their liability for future prosecutions and ensure that the companies register them. The conduct of such actions by the auditors leads to a prolongation of the period between the end of the fiscal year and the date of signing the audit report and ultimately delaying the publication of audited financial statements (Soltani, 2002). This ratio is also calculated by dividing the total debt into total assets.

Return on assets (ROA): Profitable companies run and complete their audit operations sooner than lagging firms and have less delay (Frost and Pownall, 1994). This variable is also calculated by profit before interest and taxes divided by the total average assets.

The size of the audit firm (Big): Large audit firms generally have the technical capability and expertise necessary to conduct the audit mission and meet customers' needs in the short term. Consequently, it is expected that large audit firms will provide a higher quality and faster service to distinguish themselves from other audit firms and have more customers (Samaha and Khlif, 2017);. Still, Bamber, Bamber, and Schoderbek (1993) argue that large audit firms' structural audit approach results in delays in the audit report. Consequently, empirical evidence does not coincide with the relationship between auditor size and delay in the audit report. Jaggi and Tsui (1999) also found a direct and significant relationship between the delay in the audit report and the auditor's size.

In contrast, Leventis et al. (2005) found that large corporations would reduce the audit report delay in their research. In most of the research conducted in Iran, the Audit Organization has been considered a small institution as a major audit institution and other accredited audit firms. Consequently, if the audit firm is an auditor of the company, the variable is one, and otherwise, the variable is considered zero.

4. Results

4.1. Descriptive Statistics

Table 1 shows descriptive statistics of the variables studied.

Due to the auditor's specialties' nominal variables in the audit firm's industry and size, their average and standard deviations are meaningless and therefore not provided. In addition, among the independent variables, the audit committee's size has the highest average and standard deviation. Also, among control variables, company size has the highest standard deviation. The average financial leverage (0.65) also shows that corporate debt is more than half of their assets, reflecting the high financial leverage level in typical firms.

Table 1. Descriptive statistics of research variables

Variable	Mean	Minimum	Maximum	S.D
ARL	78.815	18	216	25.620
ACSIZE	3.947	3	5	1.814
ACIND	0.484	0.2	0.75	0.176
EXPERT	-	0	1	-
BIG	-	0	1	-
SIZE	27.908	22.351	33.633	10.845
ROA	0.1125	0.108	0.572	0.162
LEV	0.658	0.0084	0.962	0.157

4.2. Check the stationarity

In this section, the Augmented Dickey Fouler has been used. This test tests the hypothesis of the existence of a unit root in serial quantities. If the zero assumption of the test for a unit root's existence is rejected in series values, it can be concluded that the studied series is stationarity. The results of this test are presented in Table 2.

Table 2. Result Of unit root test

Var	Dickey-Fuller test	
	Test statistic	Sig
ARL	-9.754	0.000
ACSIZE	-20.167	0.000
ACIND	-13.191	0.000
EXPERT	-12.034	0.000
BIG	6.331	0.000
SIZE	-5.547	0.000
ROA	-10.919	0.000
LEV	-8.013	0.000

According to the results presented in Table 2, the significance level obtained for all variables is less than 0.05. As a result, the zero-statistical hypothesis of the test is based on the unit root's existence. It can be concluded that the study series at this level of error is stationarity. Therefore, the behavior The values of the variables will not be subject to trend changes over time.

4.3. Pattern selection

The results of the Limer-F test and the Hausman test are presented in Table 3 for selecting the appropriate pattern.

Table 3. Result Of Limer-F test and Hausman test

Pattern	test	Test statistic	Sig	Appropriate pattern
First Hypothesis	Limer-F	66.878	0.000	Random effects
	Hausman	13.361	0.063	
Second Hypothesis	Limer-F	27.470	0.000	Random effects
	Hausman	12.639	0.081	

According to the results presented in Table 3, the significance level obtained for the Limer-F test in both hypotheses is zero. This level for all regression models is less than 0.05. Therefore, this test's zero assumption is based on the lack of significance of cross-sectional effects in the research model has been rejected, and it can be assumed that the regression model of this section should be estimated using panel data. The Hausman test's significance level for determining the fixed or random effects of cross-sectional effects

in all hypotheses is higher than 0.05, which indicates the rejection of the zero hypotheses of this test. As a result, the research's regression models are presented using panel data and with random effects and estimated.

4.4. Testing hypotheses

4.4.1. Test results of the second hypothesis

Table 4 below shows the findings of the first hypothesis of the study.

Table 4. Test results of the first hypothesis

$ARL_{it} = \beta_0 + \beta_1 EXP*ACSIZE_{it} + \beta_2 BIG_{it} + \beta_3 SIZE_{it} + \beta_4 ROA_{it} + LEV_{it} + e$				
Dependent variable: Delay in the audit report				
Variable		**Coefficient**	**Test statistic**	**Sig**
C		6.364351	18.49001	0.0000
EXP*ACSIZE		-0.068412	-2.279821	0.0229
BIG		-0.055509	-2.181996	0.0478
SIZE		0.020234	1.005224	0.3151
ROA		0.015729	0.179628	0.8575
LEV		0.121888	2.402314	0.0165
F	P-value	Durbin–Watson	R^2	R^2 adjusted
9.6392	0.000	2.162040	0.497272	0.462971

According to the results presented in Table 4, the auditor's industry expertise negatively and significantly modifies the relationship between the audit committee's size and the delay in the audit report. The camera level-Watson level is also well-suited.

Based on the study's findings, the results of the self-correlation analysis of error sentences using Watson's camera statistics showed no correlation error. Also, the value of F statistic and the significance level of this statistic indicates that the hypothesis of the non-meaningfulness of the whole model (zero of all coefficients) is rejected, and the regression model satisfies in general. On the other hand, an examination of the adjusted coefficient of adjusted variables showed that the auditor's specialty variable in the industry negatively correlates the 46 percent ratio of the relationship between the audit committee's size and the delay in the audit report.

A review of the control variables showed a negative and significant relationship between the size of the audit firm and the delay in the audit report, as well as a positive and significant relationship between the financial leverage and the delay in the audit report.

4.4.2. Test results of the second hypothesis

In the following, Table 5 shows the findings related to the second hypothesis of the research.

According to the results presented in Table 5, the significance of the interactive variable of the Audit Committee's independence, and the auditor's specialty in the industry is less than 0.05. In this sense, the auditor's specialty variable in the industry, in the negative, explains a maximum of 24% of the relationship between the independence of the audit committee and the delay in the audit report. Also, Watson's camera model is statistically significant. A review of the control variables showed a negative and significant relationship between the size of the audit firm and the delay in the audit report, as well as a positive and significant relationship between the financial leverage and the delay in the audit report.

Table5. Test results of the second hypothesis

$ARL_{it} = \beta_0 + \beta_1 EXP*ACSIZE_{it} + \beta_2 BIG_{it} + \beta_3 SIZE_{it} + \beta_4 ROA_{it} + LEV_{it} + e$				
Dependent variable: Delay in the audit report				
Variable		**Coefficient**	**Test statistic**	**Sig**
C		5.326454	16.45288	0.0000
EXP*ACIND		-0.167176	-2.987148	0.0029
BIG		-0.528486	-2.022446	0.0434
SIZE		0.001364	0.130980	0.8958
ROA		0.208735	1.052091	0.2931
LEV		0.351209	4.543327	0.0000
F	P-value	Durbin–Watson	R^2	R^2 adjusted
8.0922	0.000	1.858438	0.283645	0.247619

5. Discussion and Conclusions

The increased delay in the availability of financial statement information makes information less useful for economic decisions. The company's timely reporting is also one of the fundamental components of reporting quality goals. This research investigates the role of the moderator of auditor's specialty on the relationship between the audit committee's characteristics and the delay in the audit report.

The audit committee's size and independence can have a constructive impact on the financial statements' quality. Larger audit committees can influence companies and reports published by members using different expertise to conduct more rigorous control over financial reporting procedures. In addition, the audit committee should be independent of the organization's management to carry out its supervisory role and protect shareholders' interests. If members of the independent audit committee are managers and owners of the organization, they will prevent management from manipulating financial results. Independent directors are in the best position to monitor the financial reporting process and deal with management pressures and violations. Auditors with expertise in the industry have more expertise and experience in discovering mistakes in their field. The research hypotheses have shown that the audit committee's characteristics and the audit report's delay can be negatively correlated with the industry's specialty variable. If the company uses industry-specific auditors, reducing the audit committee's independence and size will be greater in the delay of the audit report. The research hypotheses' findings are in line with the findings of (Kamarudin et al., 2018). The research findings showed that managers should use industry-specific auditors, given the auditor's outstanding expertise in the industry. Investors can also refer to companies that are audited by the industry's auditors to select their investment. It is suggested that future research will also examine issues such as the role of the auditor's expertise in information disclosure and stock collapse, managerial features, and delay in the audit report, as well as the narcissism of the CEO and the audit report.

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Research Article

Impact of XBRL on Internal Audit Performance

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Abstract

The expansion of business activities has made it possible for business managers to use internal audit units to achieve their objectives and ensure optimal resource allocation. One of the ways that achieve and facilitates these goals is the use of extensible business reporting language. The purpose of this study was to investigate the impact of using extensible business reporting language on internal audit performance.

This study included 94 internal auditors and professional managers of companies tested by multiple regression methods using SPSS software.

The results show that among the factors affecting the use of extensible business reporting language, cost-benefit overload, ease of use of the system, and external entity pressure have significant positive impacts on internal auditors' performance. But the successful implementation of the model, training their employees, and adapting to previous systems had no significant impact on internal audit performance.

Keywords: Extensible Business Reporting Language, Performance Improvement, Internal Audit

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1. Introduction

Internal audit and the appropriate organizational plan and procedures are among the key factors needed to establish an internal control system, so relying on internal auditors' work will save money and progress the organization's goals. An optimized internal audit unit can improve the independent auditor's efficiency and effectiveness and increase internal audit value for the client (Vahhed Moghadam and Moeinfar, 2014). Internal audit plays an essential role in the organization's operations. Organizations with an effective audit unit are better at identifying their business risks and business system (Internal Auditors Association, 2010).

However, evaluating internal audit performance is an effective factor in creating added value for internal audit. Evaluating audit performance leads to a continuous effort by internal auditors to improve the quality of their work. The best reference for evaluating internal auditors would be the Audit Committee, and the best advertisement for internal audit is the client's satisfaction with the internal audit function. The more effective the internal audit, the better the organization's managers will introduce the internal audit benefits to other organizations' managers. As a result, they will be encouraged to use internal audit in their organizations (Pourhaidari and Rezai, 2012). As a result, internal auditors report their internal audit performance directly to the audit committee when internal audit performance is pleasant. Most internal audit activities focus on discovering unintentional mistakes and monitoring activities, and always identifying internal control deficiencies. But when internal audit performance is weak, internal auditors report directly to the financial manager, and internal auditors place management consulting activities at the heart of internal audit activity and spend little time finding deficiencies (Dezoort et al., 2001).

It can also improve internal audit performance when internal auditors use Extensible Business Reporting Language (XBRL) (Abdolmohammadi et al., 2017). Business markets and information users require arrangements to improve the clarification of reporting processes. Today, business reporting is plagued with inefficiencies, inadequate analysis, and insufficient dissemination of information among users. Therefore, it is crucial to develop a proper business reporting system to address these issues that the extensible business reporting language can address part of this need (Bozorg Asl et al. 2006). Companies can use this language as a global form of information exchange to increase efficiency, improve reporting within the company, and communicate with business information users. If there is a need to use a unique label for business units, reporting units can create these labels in the XBRL conceptual framework. This flexibility of XBRL enables the application of different accounting standards for financial reporting and can meet the diverse needs of different users (Boritz et al., 2003). Therefore, according to those above, this study aimed to investigate the factors affecting internal audits' performance by applying XBRL.

2. Theoretical bases

In today's business world, the necessity of having a unit called Internal Audit is an inevitable necessity for achieving the organizational goals and ensuring the optimal management of all resources. Internal auditors need the consideration and support of executives to perform their duties properly. In contrast, managers need to focus on the results of their performance in achieving their organizational goals and their usefulness in the relevant department in order to support and engage with internal auditors Van Peursem, 2004).

Internal audit helps improve the organization's performance by forming an audit committee, promoting ethics and values within the organization, clarifying and enhancing the quality of financial statements, and advising management (Narcisa and Elena, 2017).

An internal audit is an independent unit of the company that evaluates that company or organization's internal activities and reviews accounting and financial affairs and other operations. However, internal audit leads to reduced accounting errors, timely organizational communication, information analysis, ethics, increased efficiency and effectiveness of auditing, and overall, it contributes to improving the organization's performance (Ma'Ayan & Carmely, 2016; Gonzalez et al., 2014). As a result, several factors can affect internal auditors' performance, one of which is implementing extensible business reporting language. Extensible Business Reporting Language (XBRL) and auditing are two tools that can facilitate internal and external auditing. Extensible Business Reporting Language is a classification that defines the business and financial information used in a headquarter to incorporate the extensible business reporting language at the level of interaction in the resource planning system (Hassas Yeganeh, 2002). If the corporate business reporting chain has robust systems for extensible business reporting language, the audit needs can be provided with extensible business reporting language (Seyyedi, Pourzahed, Dehdar, and Mashmol, (2016).

This framework's value allows the organization to determine the extensible business reporting language's attachments for financial and business interactions, account balances, and original data files. In addition, the implementation of extensible business reporting language by multinational corporations, on the one hand, enhances the standardization of headquarters and, on the other hand, increases the comparability, which ultimately facilitates internal and external tasks.

Suppose the reporting chain has a robust system of extensible business reporting. In that case, the audit requirements are met with information from the extensible business reporting language, such as auditing annual financial statements. An internal audit is a tool that organizations can use to achieve their goals (Hassas Yeganeh, 2002). The continuous audit is a technology model that audits accounting data in real-time or immediately after recording contracts. Accounts can be integrated directly with the audit module through EPR systems within the company or by transferring data from the company to the auditor database. A company can develop a plan and add accounts to taxonomies that auditors also use, such as extensible business reporting language and GPS taxonomies. This approach has several important advantages; auditors can use standardized tools based on the taxonomy of extensible business reporting language to reduce auditing analysis time and cost. Customizing analytical auditing and testing tools for each client is unnecessary. There is also a high degree of reliability for audit evidence as it is automatically generated from the company's data source. Conventional audit approaches rely heavily on photocopies of company documents and handwritten datasheets. If external stakeholders such as banks and providers have extensible business reporting systems, sharing and transferring data will consistently meet the companies and the parties' audit needs. Therefore, internal auditors' use in the extensible business reporting language improves financial information clarification, reduces information asymmetry, and improves audit quality (Mohammadi and Khuzin 2017).

3. Research Background

Hsieh et al. (2019) examined the impact of XBRL disclosure management solutions on earnings release efficiency and earnings management. The results of their research show that the strategy of implementing XBRL disclosure management solution is inversely associated with delaying the earnings release for companies that publish good news, which demonstrates improved earnings release efficiency. Their research also showed that implementing an XBRL disclosure management solution is inversely related to committed earnings management and directly related to the actual activity-based earnings management.

In a study, Lambert et al. (2019) examined analysts' forecasts of the timing and accuracy of information reporting following the extensible financial reporting language's adoption. Their research results show that analysts significantly report earnings per share forecasts 10 to 15 days earlier with the Extensible Financial Reporting Language adoption. The results also indicate the accuracy of information reporting after the adoption of the extensible financial reporting language.

Liu et al. (2017) examined the impact of using extensible financial reporting language on information asymmetry. The results show that the effective use of extensible financial reporting language has a significant negative impact on reducing information asymmetry. Effective use of extensible financial reporting language reduces information asymmetry.

Abdolmohammadi et al. (2017) show that small firms in customary-law countries and large companies in civil-law countries positively correlate with internal audit performance using XBRL. The results also indicate that companies with stronger management practices positively correlate with internal audit performance using XBRL.

Shan et al. (2016) examined the forced use of the extensible financial reporting language and international financial reporting standards on audit costs. The results show that extensible financial reporting language has a significant negative impact on audit costs. In fact, the use of extensible financial reporting language reduces audit costs. The results also indicate an increase in audit costs when applying international financial reporting standards.

Khuzin and Mohammadi (2018) identified the factors affecting the use of extensible financial reporting language by companies listed on the Tehran Stock Exchange. Their research indicates that organizational environmental factors, corporate governance, and technology factors are among the effective factors in applying the extensible financial reporting language by companies listed on the Tehran Stock Exchange.

Zahmatkhesh et al. (2018) investigated the impact of extensible financial reporting language on information asymmetry. Their research shows a significant negative relationship between the use of extensible financial reporting language and the company's information asymmetry. Using extensible financial reporting language reduces information asymmetry.

Khuzin and Mohammadi (2018) investigated the role of ethics in implementing extensible financial reporting language by companies listed on the Tehran Stock Exchange. The results show that organizational environmental factors, corporate governance, and technology factors effectively apply extensible financial reporting language by companies listed on the Tehran Stock Exchange. As a result, ethics is an important factor in using extensible financial reporting language to clarify information.

Soleimani Amiri and Abu Hamza (2017) examined the impact of extensible business language and information value promotion. They show that adopting an extensible reporting language facilitates comparison, communication, and financial statement analysis. It increases clarification and quality, decreases the cost of preparing and producing financial reports, credibility, and reputation of the company technology, communicates with legal and regulatory authorities, and generally promotes company value.

Mohammadi and Khuzin (2017) examined the role of implementing extensible financial reporting language on improving financial reporting quality, enhancing clarification of financial information, and information asymmetry. Their research results show that implementing an extensible financial reporting language improves financial reporting quality, enhances financial information, and reduces information asymmetry.

4. Research hypotheses

4.1. Main hypothesis

The use of extensible business reporting language has an impact on internal audit

performance.

4.2. Sub hypothesis

1. Cost-benefit overload impacts on internal audit performance.
2. The successful implementation pattern has an impact on internal audit performance.
3. Ease of use of the system has an impact on internal audit performance.
4. The external entity pressure has an impact on internal audit performance.
5. Staff training and their knowledge have an impact on internal audit performance.
6. Adapting to the previous system has an impact on internal audit performance.

5. Research methodology

This research is a descriptive-correlation study conducted to investigate the impact of extensible business reporting language on internal audit performance. The sample consists of 94 internal auditors and professional managers of companies who were selected randomly. Data were collected using a questionnaire. The researcher-made questionnaire was designed based on the Likert scale. The questionnaire consists of two parts, the first part of which deals with the use of extensible business reporting language, and the second part deals with internal audit performance. Finally, after collecting the required data, they were analyzed using SPSS software, and Multiple Regression was used to test the research hypothesis. There are also 36 questions related to the research variables, 18 of which are related to the Extensible Business Reporting Language variable, consisting of 6 factors, each containing 3 questions, and the next 18 related to the internal audit performance variable. As a result, Cronbach's alpha was used to measure the reliability of the questionnaire.

5.1. Validity and reliability of the questionnaire

Content validity was used in this study. Experts and experienced professor's viewpoints were used to assessing the validity of the questionnaire. Cronbach's alpha was used to assess the reliability of the questionnaire, which was 0.88. As a result, since the Cronbach's alpha value was greater than 0.70, the research questionnaire's questions had good reliability.

Table 1. validity of the questionnaire information

The Number of questions	Cronbach's alpha
36	0.88

6. Findings

Table 2. Model Summary

model	R	R^2	Adjusted R^2	SE	Durbin-Watson
1	0.769	0.592	0.563	2.731	1.978

The coefficient of determination and the adjusted coefficient are given in Table 2. This model's coefficient of determination shows that what percentage of the dependent variable changes is expressed by independent variables. According to the coefficient of determination results, it is observed that the independent variables explain approximately 0.59% of the dependent variable changes. But on the other hand, this criterion cannot properly express the independent variable's effect on the dependent variable. As a result, we need an adjusted coefficient of determination to solve this problem. The adjusted coefficient adjusts the coefficient of determination according to the independent variables added to the regression line and the new y-intercepts. Therefore, the smaller difference

between the coefficient of determination and the adjusted coefficient indicates that the independent variables added to the model were correctly selected. Therefore, given the value of the adjusted coefficient of determination (56%), which has very little difference from the coefficient of determination, it can be concluded that the selected variables were correctly selected for model estimation.

Also, the Durbin Watson test was used to evaluate the independence of variables and residuals. The meaning of being independent is that one observation does not affect the outcome of the other observations. According to the results, the value of Durbin Watson was 1.97%, which is between 1.5 and 2.5, which indicates a lack of serial correlation in the residuals.

Table 3. Analysis of Variance (ANOVA)

Model	Total squares	df.	Mean squares	F	Sig
Regression	940.776	6	156.776	21.006	0.000
Residual	649.304	87	7.463		
Total	1589.957	93			

Table 3 shows the analysis of variance in the regression model. Given the value of F (21.006) and the significance level of 0.000, which is less than the error level of 0.05, it can be assumed by 95% confidence that this pattern is generally significant. Therefore, we conclude that the regression model used in this study is appropriate. This means that the regression model's contribution to the total changes is much greater than the error level (residuals).

Table 4. Statistical residuals

	Least	Most	Mean	SD	N
Predicted value	74.763	88.315	82.021	3.180	94
Residuals	-7.104	6.554	0.000	2.642	94
Predicted standard value	-2.282	1.979	0.000	1.000	94
Standard Residual	-2.601	2.399	0.000	0.967	94

Table 5. Multiple Coefficients of Internal Audit Performance Based on XBRL Components

variables	Partial correlation	SE	Standard Partial Correlation	Sig	Variance inflation factor
Cost-benefit overload	1.415	0.320	0.346	0.000	1.310
Successful implementation pattern	0.542	0.348	0.136	0.122	1.629
Ease of use of the system	0.825	0.285	0.234	0.005	1.401
External entity pressure	0.707	0.308	0.178	0.024	1.277
Staff training	0.525	0.399	0.121	0.192	1.787
Adapting to previous system	0.503	0.310	0.136	0.108	1.487
Constant value	20.559	5.582		0.000	

Finally, a table is presented to investigate the distribution of residuals. According to the OLS regression conditions, the residuals should have a normal distribution with a mean of 0 and variance of 1. Since the mean and variance of the residuals were equal to 0 and 1, this can be another reason for the model's suitability.

As shown in Table 5, the variance inflation factor was calculated to ensure whether the independent variables' linear relationship will adversely affect the results. The values of the variance inflation index value for all variables were less than 10; therefore, it can be concluded that the existence of such linearity will not cause any difficulty to draw conclusions based on this model. So, the variance inflation test results for the model variables concerning the obtained values show no linear correlation. Estimates of the coefficients and characteristics of the research tests are presented in Table 2. In this study, Multiple Regression was used to investigate the impact of extensible business reporting language components on internal audit performance. The results of multiple Regressions in this study show that the variable of Cost-benefit overload with a standard coefficient of 0.346 and significance level of 0.000, which is less than 0.05 has a positive and significant effect on internal audit performance. Successful implementation pattern variable with a standard coefficient of 0.136 and significance level of 0.122, which was more than 0.05, did not affect internal audit performance. The results related to the ease of use of the system show that this variable has a positive and significant effect on internal audit performance with a standard coefficient of 0.223 and a significance level of 0.005, which is less than 0.05. The external entity pressure results show that this variable has a positive and significant effect on internal audit performance with a standard coefficient of 0.178 and a significance level of 0.024, which is less than 0.05. Staff training variable with a standard coefficient of 0.121 and significance level of 0.192, which is more than 0.05, does not affect internal audit performance. Also, the previous system's adaptation shows that this variable with a standard coefficient of 0.136 and a significance level of 0.108, which is more than 0.05 has no significant effect on internal audit performance.

7. Conclusion

In today's business world, to achieve organizational goals and ensure optimal management of all resources, the need for a unit called internal audit is inevitable. Internal auditors need the interaction and support of managers to perform their duties properly. Managers also focus on internal audit performance results in achieving their organizational goals and their usefulness to support and interact with internal auditors. Consequently, according to this study's findings, the impact of extensible business reporting language on internal audit performance is investigated. The results of multiple Regression show that among the factors affecting the use of extensible business reporting language, the cost-benefit overload factor with a coefficient of 0.346 and significance level of 0.000 has the most impact on internal audit performance. The ease of use of the system and external entity pressure, with coefficients of 0.223 and 0.178 and the significance level of 0.005 and 0.04, respectively, positively and significantly affect internal audit performance. This study's results are in line with Nikbakht and Golkar (2011), which showed that these factors could affect the use of extensible business reporting language. According to the results, other factors affecting the use of extensible business reporting language such as successful implementation pattern, staff training, and adapting to previous systems had no significant effect on internal audit performance. These results are not in line with Nikbakht and GolKar's (2011) research. They show that these factors have a significant and positive impact on the use of extensible business reporting language.

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Research Article

Factors Influencing the Adoption of E-Banking in Somalia

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Abstract

The electronic banking concept has been in practice worldwide, especially in developed nations, compared to developing countries where Somalia is no exception to this trend. The purpose of this study is to identify the factors that determine e-banking adoption in Somalia. Since the introduction of e-banking, several studies have explored diverse e-banking concepts in developing nations. This study identified four main determinants of e-banking adoption, which include internet speed, trust, perceived ease of use, and perceived usefulness. This study's findings show that internet speed, trust, perceived ease of use, and perceived usefulness played a significant role in determining e-banking adoption. The method employed in this study involved primary data through an online survey questionnaire. The study's limitation is basically quantitative research; hence, future research should include other geographical areas such as other Somalia cities, meeting the findings' generalization. This study also suggests that future research should implement a longitudinal study where recurring measurement on respondents is done, thereby understanding the e-banking adoption behavior over time.

Keywords: E-banking, Internet speed, Trust, Perceive ease of use, Perceive usefulness, Technology

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1. Introduction

The electronic banking concept has been in practice worldwide, especially in developed nations, compared to developing countries where Somalia is no exception to this trend (Mohamad 2011). E-banking is a relatively new concept in Somalia and still in its early stage even though the adoption process is swiftly increasing in developing countries (Sayid, & Echchabi, 2012). In recent years the rapid development of IT (information technology) such as e-banking has brought several changes, especially in the way banks provide services to their customers. Financial service providers such as the banking sector are perceived to be the most important IT-intensive service industry because they are the largest IT service providers who spend a tremendous amount of money on IT systems (Alkafagi, 2015). Nowadays, a bank's customers are much more interested in getting an e-service quality experience.

Studies have shown that e-banking innovation saves time and money and provides bank customers with minimal risk (e.g., loss and theft), lower service charges, convenience, instant accessibility, and payment (Bacinello, Carmona, Tomelim, Da Cunha, & Tontini, 2017). Hamid, Razak, Bakar, and Abdullah (2016) highlighted that internet banking improves customer's job performance. Adams, Bashiru, and Abdulai (2016) argued that e-banking is more beneficial to banks than its customers. The impact of the internet of a thing (IoT) era on the banking sector has made away with the brick and mortar banking system. This means that bank customers need not visit the bank to make any transaction due to the contactless nature of e-banking, its 24/7 convenience, accessibility, and flexibility, among other benefits (Donovan, 2012; Auta, E. M. 2010; Lee and Chung, 2009).

However, the major issue is how to use the technology (i.e., computer) coupled with slow internet speed, customer trust, perceive usefulness, and perceive ease of use have constituted a major issue despite the willingness to adopt e-banking by some good number of Somalians (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). However, there is a steady increase in e-banking adoption in Somalia, which has been attributed to its ease of use and mobile phone users' rate, which is consistent with Au and Kauffman's (2008) theory of "consumer choice and demand." This theory stipulates that consumers may choose to use any particular banking technology, such as e-banking, based on the ease of use and other related attractive features that they perceive.

The issues regarding e-banking adoption concern poor service quality and customer (Amin, 2016; Calisir and Gumussoy, 2008). According to Bhattacharjee (2017), the primary cause of customer's dissatisfaction with e-banking is a lack of trust. Studies have also identified some e-banking adoption issues that are common in developing countries, which includes slow internet speed, internet experience, lack of government support, security and privacy, customer's trust (Sánchez-Torres, Canada, Sandoval, and Alzate, 2018; Bacinello, Carmona, Tomelim, Cunha, & Tontini, 2017; Rahman, Saha, Sarker, Sultana, and Prodhan, 2017; Daniel, and Jonathan, 2013; Ibok, and Ikoh, 2013).

Since the introduction of e-banking, several studies have explored diverse issues of e-banking concept in the developing nations (Courchane et al., 2002; Pikkarainen et al., 2004; Mattila and Mattila, 2005; Roussos, 2007; Forrester Research, 2009; The World Bank, 2009; Yousafzai and Yani-de-Soriano, 2012; Devi Juwaheer, Pudaruth, & Ramdin, 2012). Many studies have attempted to identify the factors (such as perceive ease of use, perceive usefulness, income level, educational level, age, etc.) that determine e-banking adoption in the developing country by using several types of theories such as the technology acceptance model (TAM) (Davis, 1989), a theory of reasoned action (TRA) (Fishbein and Ajzen, 1975) and theory of planned behavior (TPB) (Ajzen, 1991). However, a limited study has focused on customer trust and the internet's speed and perceives ease of use and perceives usefulness as predictors of e-

banking adoption, especially in Somalia (Sayid, & Echchabi, 2012; Mutengezanwa, & Mauchi, 2013). Thus, the study aims to fill this gap by further providing evidence that constitutes the issues mentioned above, such as lack of usage, people resistance, lack of up-to-date services, etc.

Additionally, this study aims to look into how customer trust influences e-banking adoption among Somalia in some selected universities' students of Mogadishu, to reflect the contextual issues of e-banking adoption in Somalia. Moreover, these predictors of e-banking adoption have been a lingering issue for some time now in Somalia. In sum, significant studies have provided evidence on the extensive adoption of e-banking in developing nations. However, there is a limited study on e-banking adoption in developing nations, especially in Somalia. The need to identify the factors that will encourage and improve internet banking services adoption becomes paramount for the present study. The remaining part of the paper is designed as follows. Section one deals with the introduction, and the next section reviews the pertinent literature and hypothesis development evidence from prior researches. Section three describes the methodology adopted in this research, followed by section four, which summarizes the results. Finally, section five offers the conclusive part of the study.

2. Literature Review and Hypothesis Development

The advent of internet banking technology such as e-banking in Somalia has led to changes in how financial services and banking services are offered to customers (Madulu, 2014 cited in Gas 2016). This is because e-banking facilitates internet banking facilities such as ATMs, computers, and money transfers. Following the collapse of Somalia's government since 1991, as led by the former president Siyad Barre, the financial system has undergone several reforms, especially in the Central Bank and the entire Somalia banking system (Sayid, & Echchabi, 2013). Thus, towards the end of 2006, the central bank managed to restore its offices in Mogadishu and other main cities. As a result, the Money Transfer Companies, known as the "Hawaleh System," was implemented to deliver some essential banking services such as e-banking.

The Hawaleh System (remittance providers) has its agencies worldwide, making it a famous financial player in Somalia coupled with the faster and lower service charges they offered and thereby increased public trust and reliability (Sayid, & Echchabi, 2013). Also, the central role of the Hawaleh system is to transfer money between foreign countries and within the country. For example, this platform of e-banking (money transfer) enables Somali students to study in Malaysia to efficiently carry out their e-banking transactions at any point in time, provided they have a computer or IT Technology linked with the internet. Moreover, there are other e-banking facilities such as ZAAD (launched by Telsom company in 2009 as the first money transfer system in Somaliland) and e-Dahab (launched by Dahabshiil in 2014) (Gas, 2016). Despite the popularity of these e-banking facilities, there are still issues of lack of usage due to people's resistance.

The electronic banking concept has been in practice worldwide and is rapidly growing globally, especially in developed nations compared to developing ones. Nowadays, the internet of things (IoT) era has led to e-commerce adoption, such as e-banking as a competitive advantage to the banking sector because it provides a flexible and convenient banking platform that boosts customer's trust and satisfaction. Globally, e-banking is widely accepted concerning customer service quality, banking securities, and customers' perceived usefulness and ease of use, and customers' trust. Additionally, e-banking is gaining more momentum over traditional banking, and winning customers' loyalty and gaining their continuous patronage requires providing e-service quality that will earn their trust.

Mainly, the TAM constructs, especially perceived usefulness and ease of use, were developed by Davis (1989) to tackle the issues of e-mail. For example, according to Davis (1989), TAM's proposed model is primarily developed to understand users' acceptance of adopting IS such as e-banking through perceived usefulness and perceived ease of use constructs to evaluate bank customers' intention to adopt e-banking. There are many definitions of electronic banking postulated by several authors. Mainly, these definitions cover areas like the services offered, advantages of e-banking, and the various levels of e-banking (Mutengezanwa, and Mauchi, 2013).

The technology acceptance model is used in the study as the underpinning theory to explain the intention to adopt e-banking. TAM is a philosophy that explains the user's acceptance or refusal of information system applications such as e-banking. TAM was born out of prior work on the "Theory of Reasoned Action (TRA) developed by Fishbein and Ajzen (1975) and Theory of Planned Behaviors (TPB) proposed by Cunningham, Taylor, and Todd (1985)". During his Doctoral thesis at MIT Sloan School of Management in Cambridge, Massachusetts, USA, Fred Davis developed the TAM model. The TAM constructs, especially perceived usefulness and ease of use, were mainly developed by Davis (1989) to tackle e-banking adoption issues.

In applying this theory to internet banking adoption, studies have indicated that customer's trust (which is regarded as an element of performance expectancy) and internet speed (which is regarded as one of the vital facilitating condition for e-banking adoption) significantly influence users' intention to adopt Venkatesh, Morris, Davis, and Davis (2003). In other words, a poor internet connection with high cases of an internet security breach that leads to questioning the reliability and ingenuity of the services provided by the bank will eventually not stimulate user's behavior to adopt e-banking. Also, Gunaratnam et al. (2017) studies on "the influence of e-banking practices" in Jaffna city, Sri Lanka, found that among the four predictors of e-banking practice (content and website layout, speed of delivery, privacy and security, convenience and accessibility), internet speed had the most substantial influence on e-banking practice. Internet speed also allows customers to easily purchase by credit card, thereby making the customer comfortable as delivery is free and affordable (Gounaris & Koritos, 2008).

Internet speed plays a vital role in customers' comfort because it is available 24 hours a day and 365 days in a year, which is not possible through e-commerce. Previous studies (see, for example, Chavan, 2013; Haque, Ismail, & Daraz, 2009; Al- Somali et al., 2009) found a significant relationship between internet speed and intention to use e-banking, while other researchers like (Amin, 2016; Floh & Treiblmaier, 2006; Poon, 2007), did not establish a significant relationship between internet speed and intention to use e-banking. In order to reconcile the conflicting results shown in the literature, it is appropriate to utilize the following hypothesis that explains the relationship between internet speed and the intention to adopt e-banking in Somalia. Thus, this study developed the following hypothesis:

H_1: *There is a significant relationship between internet speed and e-banking adoption.*

Trust is the customers' willingness to use internet banking to expect the bank to perform their service obligation regardless of the customers' ability to monitor or control the service provider's activities. Trust is an essential resource that influences user thoughts, and it establishes the achievement of new technology adaptation, like e-banking, e-commerce. (Chen and Barnes, 2007). Besides, several researchers like (Bhattacharjee 2017; Maduku, 2014) have shown that the trust construct was found to the primary driver for e-banking adoption (Bhattacharjee 2017; Maduku, 2014). Therefore, to put to rights the different outcomes revealed in the literature, it is suitable

to use the following hypothesis that elaborates on the relationship between trust and the intention to adopt e-banking in Somalia. Thus, this study developed the following hypothesis:

H_2: *There is a significant relationship between trust and e-banking adoption.*

Perceived Ease of Use refers to the level at which users believe that a specific method will be effective regarding its transfers and utilization (Davis, 1989). Therefore, whenever a customer feels that e-banking is secure and easy to adopt and free of the bundle, the customers' possibilities to use new Technology will be high. Many studies (Saidi et al., 2016; Maduku, 2014; Mazuri, Samar, Norjaya, and Feras, 2017) have revealed that e-banking is significantly influenced by perceived ease of use, primarily in the developing nations. While some researchers like Sayid and Echchabi (2012) disputed that perceived ease of use did not significantly affect internet banking adoption. Somalia culture has a propensity to motivate risk taken instead of risk aversion. In the same way, Yuan, Liu, Yao, and Liu (2016) establish related results. However, this study improved the hypothesis to validate these conflicting results, the following hypothesis:

H_3: *There is a significant relationship between perceived ease of use and e-banking adoption.*

The key element identified by Davis (1989) that drives e-banking adoption is Perceive Usefulness. It refers to the level by which individuals using e-banking believe that it will develop his/her financial services and banking transactions. However, most previous studies have indicated that perceived usefulness has a significant positive influence on e-banking adoption (Al-shbiel & Ahmad, 2016; Al-smadi, 2012). Additionally, Tran and Corner (2016), studies in New Zealand established perceive usefulness to have the most substantial influence on e-banking adoption. On the other side, some studies have revealed that perceived usefulness has a negative impact on the adoption of the new Technology of e-banking. In their study, Aboelmaged and Gebba (2013) found that perceive usefulness does not influence mobile banking adoption in the United Arab Emirates (UAE). Therefore, in order to hypothesize the literature as mentioned above, the following hypothesis will be;

H_4: *There is a significant relationship between perceived usefulness and e-banking adoption.*

3. Research methodology

This study's targeted population comprises SIMAD University students, Somali National University students, and Benadir University students. The present study also utilizes primary sources via a questionnaire distributed online to reach the respondents of interest. The sample used in this study involves students studying in three Universities of Mogadishu, namely SIMAD University (3796 students), Somali National University (7500 students), and Benadir University (1613 students), comprising total students of 12909 students. The information gathered from the universities' authorities responsible for keeping the records of students' enrollment. The researcher believes that this is sufficient to ensure a good representative of the entire population of Somalia students studying in Mogadishu Universities because Mogadishu is the capital city of Somalia. It has a good number of universities. These institutions are highly regulated in the country. The selected sample comprises of both degree and postgraduate students studying in the said universities. According to Krejcie and Morgan (1970), a population of 12909, a sample size of 377 is required. Therefore, the suitable sample size chosen for this study is 377. This population's sample size was ascertained using Krejcie and Morgan's (1970) table for determining for a given population. The present study employs a convenience sampling technique because the

research seeks the factors influencing selected university students to adopt e-banking in Somalia. As the sample size of the targeted population is 377, the convenience sampling technique is used to select the potential respondents. The data collected were analyzed using the SPSS software (version 25) to test the study's significance. The researcher outlined the following operational definitions shown in Table 1, which will exhibit the terminology and acronyms for the investigation variables.

Table 1. Operational Definition of Key Variables

S/N	Variables	Measurements	Proxies	Sources
Dependent Variable:				
1.	E-banking Adoption	E-banking adoption refers to an undertaking to sign a contract by acknowledging full usage of an electronic banking gateway or channel that promotes banking transactions such as checking account balance, fund transfer, standing order, payment of bills, etc.	EBA	Gbadebo (2016)
Independent Variables				
1.	Internet Speed	Internet speed is regarded as a facilitating condition because, according to Venkatesh (2003), any technical infrastructure that supports the use of a system is regarded as a facilitating condition.	IS	Venkatesh (2003)
2.	Trust	Trust refers to users' willingness to adopt internet banking with the hope that the bank will fulfill their service obligation regardless of the customers' ability to monitor or control the service provider's activities.	TR	Yousafzai, Pallister, & Foxall (2009)
3.	Perceived ease of use	Perceived Ease of Use refers to the level at which a user believes that using a new specified system will be devoid of both mental and physical efforts, especially in terms of transfer and utilization	PE	(Davis, 1989)
4.	Perceived usefulness	Perceived usefulness refers to the degree by which a person using e-banking believes that it will enhance his/her financial service or banking transactions.	PU	(Davis, 1989)

3.1 Variable measurement

The present study measures five variables: internet speed, trust, perceived ease of use, perceived usefulness, and intention to adopt E-banking. All five items are considered to have strong construct validity and highly reliable, as shown in Table 2

Table 2. Measurement and Instruments of Variable

Variables	Sources	No of Items	Modified Items	Original Items
Internet Speed (IS)	Tan and Teo (2000) Poon, W. C. (2007)	6	1. Faster Internet access speed is important for electronic banking.	1. Faster Internet access speed is important for Internet banking.
			2. Frequent connection breakdown affects the speed of the electronic banking service.	2. Frequent connection breakdown.

			3. Easy navigation of the electronic banking site due to internet speed.	3. Easy to navigate the bank site due to a smooth speed.
			4. Electronic banking facilitates an efficient transition (no waiting time).	4. Transition is efficient/no waiting time.
			5. Speedy response to the customer's complaint in electronic banking is satisfactory.	5. Response speed to a complaint is satisfactory.
			6. The internet speed of the electronic banking transaction flow is faster compared to traditional banking.	6. Speed of transactions flow is faster than traditional banking channels.
Trust (TR)	Suh and Han (2002)	5	1. The electronic banking site is trustworthy.	1. This Internet banking site is trustworthy.
			2. The electronic banking site keeps its promises and commitments.	2. This Internet banking site keeps its prom promises and commitments.
			3. I trust the electronic banking site.	3. I trust this Internet banking site.
			4. The electronic banking site would do the job right, even if not monitored.	4. This Internet banking site would do the job right, even if not monitored.
			5. The electronic banking site keeps customers' best interests in mind.	5. This Internet banking site keeps customers' best interests in mind
Perceived ease of use (PEOU)	Ho and Ko (2008)	5	1. I find electronic banking easy to use.	1. I find this Internet banking site easy to use.
			2. It is easy for me to learn how to utilize an electronic banking site.	2. It is easy for me to learn how to utilize this Internet banking site.
			3. My interaction with the electronic banking site is clear and understandable.	3. My interaction with this Internet banking site is clear and understandable.
			4. It is easy to remember how to use an electronic banking site.	4. It is easy to remember how to use this Internet banking site
			5. I find it easy to get an electronic banking site to do what I want it to do.	5. I find it easy to get this Internet banking site to do what I want it to do.
Perceived usefulness (PU)	Lai and Li (2005)	5	1. I can accomplish my banking tasks more easily using electronic banking.	1. I can accomplish my banking tasks more easily using Internet Banking.
			2. I can accomplish my banking tasks more quickly using electronic banking.	2. I can accomplish my banking tasks more quickly using Internet Banking.

			3. Electronic banking enhances my efficiency in utilizing banking services.	3. Internet Banking enhances my efficiency in utilizing banking services.
			4. Electronic Banking enhances my effectiveness in utilizing banking services.	4. Internet Banking enhances my effectiveness in utilizing banking services.
			5. Overall, I find electronic banking useful.	5. Overall, I find Internet Banking useful.
Intention to Adoption E-banking (IBA)	Davis et al. (1989)	5	1. I will always try to use e-banking in my daily life.	1. I will always try to use telebanking in my daily life
			2. I intend to use e-banking in the next month.	2. I intend to use telebanking in the future.
			3. I predict I would use banking in the future.	3. I predict I would use telebanking in the future.
			4. I plan to use e-banking in the future.	4. I plan to use telebanking in the future.
			5. I will recommend peers to use e-banking.	5. I will recommend peers to use Internet banking.

4. Results and Discussion

4.1. Analysis of response rates

A total of 377 questionnaires was distributed online, and the number of response received is 193. It represents about a 51 percent response rate. As represented, the response rate is due to a lack of a good internet system and adequate electricity. These factors are responsible for the low response rate. The table below (3) shows how the questionnaires were distributed among selected university students in Mogadishu, Somalia.

Table 3. Analysis of Response Rate

Description	Outcome	Rate (%)
Questionnaires distributed	377	100
Questionnaire Responses returned	193	51.2
Excluded questionnaire and outlier that is not applicable	(32)	
Usable Responses	161	43

4.2. Descriptive statistics

Table 4 presented the general mean scores and standard deviation for both dependent and independent variables in this study. All the items for the variables were measured based on five Likert scales. The result shows that the respondent's mean value for acceptance level on the intention to adopt e-banking is 4.174, with a standard deviation (SD) of 0. 0.555. This shows that most of the respondents agreed and accepted that the statement in the instruments. Also, the descriptive statistic for the independent's variables was measured based on a five Likert-scale in which the outcome reveals that perceived ease of use has the highest mean score and standard deviation of 4.140 and 0.511, respectively, while trust has the lowest mean score and standard deviation of 3.704 and 0.718 respectively. This revealed that perceived ease of use has the highest positive response, while trust has the least response. This is clearly shown in Table 4 below.

Table 4. Descriptive Statistics

Variables	Obs	Mean	Std. Dev.	Min	Max
IS	161	4.060	0.584	2.50	5.00
TRUST	161	3.704	0.718	1.80	5.00
PE	161	4.140	0.511	2.80	5.00
PU	161	4.048	0.592	1.40	5.00
IBA	161	4.174	0.555	2.80	5.00

4.3. Discriminant validity

The discriminant validity is carried out by calculating the square root of the AVE of each variable and comparing it with the variable's correlations. It provides evidence that a variable has discriminant validity; AVE's square root should be higher than the correlation. Table 5 shows the results of AVE, CR, SD, mean average, square roots of AVE, and the correlation coefficient. The results indicate that the variables of this study have achieved appropriate discriminant validity.

Table 5. Descriptive statistics, Inter-Correlation and Internal Consistency

Variables	Mean	SD	AVE	CR	IBA	IS	PE	PU	TR
IBA	4.060	0.584	0.570	0.799	0.755				
IS	3.704	0.718	0.523	0.763	0.517**	0.723			
PE	4.140	0.511	0.617	0.829	0.364**	0.373**	0.786		
PU	4.048	0.592	0.513	0.805	0.408**	0.177**	0.301**	0.716	
TR	4.174	0.555	0.504	0.835	0.461**	0.441**	0.456**	0.285**	0.710

Note: IBA= Intention to adopt e-banking, IS= internet speed, PE=perceive ease of use, PU=perceive usefulness, TR= trust, SD= Standard deviation, AVE= Average variance extraction, CR= Composite reliability.

**. Correlation is significant at the 0.01 level (2-tailed).

*P< .05, **P< .01 (2-tailed)

From Table 6, it is clear that all the independent variables in the current study are not affected by the multicollinearity problem, as a result of the VIF for all the independent variables (internet speed, trust, perceive ease of use, perceive usefulness) are less than 10 and the tolerance values are also more than 0.10. Thus, since the value of VIF and tolerance for all the independent variables are within the acceptable range, there is no multicollinearity problem in this study.

Table 6. Collinearity Diagnostics

Variables	Collinearity Statistics	
	Tolerance	VIF
IS	0.686	1.457
TR	0.629	1.589
PE	0.602	1.662
PU	0.881	1.134

a. Dependent Variable: IBA

4.4. Multiple regression results

Multiple regressions are employed to measure the effects of various independent variables on a dependent variable concurrently. This processing helps the researcher understand the extent to which a set of independent variables explains the discrepancy in the dependent variable (Cavana et al., 2001). In this research, the relationship between the adoption of e-banking and its determinant was analyzed using standard regression analysis, as suggested by Sekaran and Roger (2013). Standard regression enables the whole variables of the study to be put into the model simultaneously and

evaluated based on the variance contribution. The result shows that the model's overall r2 is significantly based on (F-value =28.116, P<0.001).

Table 7. Summary of Results

NO.	Hypotheses	Beta	P-value	Results
H_1	There is a significant relationship between internet speed and e-banking adoption.	0.343	0.000	Supported
H_2	There is a significant relationship between trust and e-banking adoption.	0.200	0.010	Supported
H_3	There is a significant relationship between Perceive's ease of use and e-banking adoption.	0.134	0.090	Supported
H_4	There is a significant relationship between Perceived usefulness and e-banking adoption.	0.184	0.005	Supported

Dependent variable= IBA, **P value ≤ .01, ***P value ≤ .05

Table 7 above clearly presents the R^2 of 40.4%, which means that the variables (internet speed, trust, perceived ease of use, and perceived usefulness) as the determinants of adoption of e-banking can explain 40.4 percent of the variance. Base on Table 7, hypothesis 1 stated that internet speed relates to the adoption of e-banking. Table 4.5 shows that internet speed was positively related to the adoption of e-banking (B=0.343, p<0.05). The findings support hypothesis 1. This result suggests that a high degree of internet speed tends to increase one's adoption of e-banking. This is supported by Erkin (2014) findings, who suggest that internet banking facilities such as internet speed should be easily accessible to customers. Hypothesis 2 stated that trust relates to the adoption of e-banking. Table 4.5 shows that trust was positively related to the adoption of e-banking (B=0.200, p<0.01). The findings support hypothesis 2. This result suggests that a high degree of trust tends to increase one's adoption of e-banking. Therefore, this result is consistent with past studies by Koenig-Lewis et al. (2010). The outcomes showed that Trust and Credibility were two main key indicators in decreasing the general perceived risk of e-banking adoption in Germany.

Hypothesis 3 stated that perceive ease of use relates to the adoption of e-banking. Table 4.5 shows that perceived ease of use was positively related to the adoption of e-banking (B=0. 134, p<0.01). The findings support hypothesis 3. This result suggests that a high degree of perceived ease of use tends to increase one's adoption of e-banking. This result is supported by past studies that showed a significant relationship between perceived ease of use and e-banking adoption, especially in developing nations (Saidi et al., 2016). Hypothesis 4 stated that perceive usefulness relates to the adoption of e-banking. Table 4.5 shows that perceive usefulness was positively related to the adoption of e-banking (B=0. 184, p<0.01). The results support hypothesis 4. This finding suggests that a degree of perceived usefulness tends to increase one's adoption of e-banking. Overall, all hypotheses of this are supported. This study's findings are consistent with the result of much research, which states that e-banking adoption is significantly influenced by perceived usefulness, particularly in less developed countries (Maduku, 2014).

5. Conclusions

The main objective of the research is to investigate the factors influencing the adoption of e-banking in Somalia. Given this objective, the research responds to the research questions raised above. These replies are presented in detail and supported by the correlation and regression analysis results. There are four independent variables, such as Internet speed, trust, perceived ease of use, and Perceptive usefulness, which

have been tested to recognize which is the most significant factor influencing the adoption of e-banking. It was found that Internet speed is significantly related to e-banking adoption. Hence, this reveals that internet speed does affect the adoption of e-banking in Somalia. The result of this study revealed that there is a significant relationship between trust and the adoption of e-banking. This study supports the hypothesis that there is a significant relationship between Perceived Ease of Use and e-banking adoption. The study's result supports the hypothesis; the finding revealed a significant positive relationship between perceived usefulness and the adoption of e-banking. The finding of this research increases the body of knowledge in the area of banking in Somalia. Future researchers can try the variables tested in this research with a more extensive sample size to see if consistency can be identified. Future research is also suggested to include other geographical areas such as other Somalia cities, meeting the findings' generalization. Hence, this study suggests that future research to implement a longitudinal study where recurring measurement on respondents is done, thereby understanding the e-banking adoption behavior over time.

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Research Article

Application of Data Mining Method in Anticipating of Relationship between Liquidity and Profitability in Capital Market

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Abstract

Two important subjects, liquidity, and profitability are under the special attention of scientists and financial managers of corporations. Liquidity as an effective factor in profitability has major importance that is interesting for corporations' financial managers. Therefore, this paper aims to apply the data mining technique in anticipating the relationship between liquidity and profitability in the capital market. This project is classified as library-type research work and based on data mining techniques (neural network, backup vector machine, and regression analysis). Here, the financial information of 147 corporations in the capital market from 2013 - 2018 was analyzed. The research method was inductive and posterior (using past information). This research is identified as descriptive–correlative. For analysis of data SPSS Modeler v. 18 and SPSS v. 23 programs were used. Research findings showed that neural networks and backup vector machines could predict the relationship between liquidity and profitability, but regression analysis could not anticipate it.

Keywords: liquidity, profitability, neural network, backup vector machine, decision tree

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1. Introduction

Profit is identified as the most important information in economic decisions. Profit as a guide of Dividend payment, a measurement of the effectiveness of management tools, and a prediction and evaluation of decisions facility has been under the attention of investors, managers, and financial analysts (Zhang, 2011). Accordingly, many scientists had efforts to detect effective factors on the profitability of corporations. Meanwhile, liquidity with major impacts on profitability is important to corporations' financial managers and could affect corporations' profitability (Ghaderi et al., 2013).

However, some scientists believe that liquidity has more importance, and if a firm is not profitable, it may be ill, but if it has not liquidity, it is in the dying process. On the other hand, if a corporation is non-profitable, it could be doing well, but it could not be alive (Darabi and Molaei, 2011).

The estimation of profitability and the assessment of the level and the profit trend are the best estimates of a company's average profits. The expectation of maintaining or repeating it with a degree of order in the next period is called profitability. Most of the profitability models are capitalized through an agent or coefficient that includes capital, risk, and expected future returns. Earnings per share are appropriate for assessing the power of profitability if calculated by emphasizing the continuous items of profit and loss. Analysts focus on identifying components of the flow of income and expenditure that are stable and predictable. For many years, the policy of dividing profits has been one of the main challenges of financial issues (Ghaderi et al., 2013). Investigating and analyzing the state of liquidity by managers and other users makes it possible to make efficient decisions. Financial information users usually use common ratios to determine the power of repayment of debts. They are less relevant to the relatively new cash cycle that is an effective factor in making decisions. The cash flow cycle as a dynamic and up-to-date liquidity indicator begins when paid for the raw material and continues until the goods' sale claims are received. While current and rapid ratios are a criterion for evaluating short-term obligations (Darwish, 2012), but in Iran though, the cash flow cycle ratio has been used in studies to examine the management of working capital and earnings management. Still, this ratio was not the main focus of liquidity ratios and performance evaluation and commitment (Hajiha and Feizabadi., 2013).

Liquidity demonstrates the company's ability to meet its short-term obligations. In other words, the company's liquidity is the relationship between cash flow amounts that will be available to the company in the short term and the cash that the company will need (Dahiyat, 2016). Liquidity management is one of the financial manager's main duties because if the liquidity ratios are not appropriate, the company may not pay its principal and interest of its debt on its exact time. According to the research background and theoretical foundations of research, the application of data mining techniques has not been studied in predicting the relationship between liquidity and profitability of the capital market in Iran. Therefore, the necessity of this research was highly felt. In this research, the data mining technique was used to predict the relationship between the capital market's liquidity and profitability.

Therefore, according to the stated issues, this research's main question is whether the application of data mining techniques is possible in predicting the relationship between liquidity and profitability of the capital market.

2. Theoretical Framework and Research Background

2.1. Theoretical framework

Cash flows for the company often accompany the company's profitability, so more profitable companies are less willing to hold and store cash. On the other hand, creditors tend to lend their money to more profitable companies to minimize their risk. Hence

companies with higher profitability have more access to external financing than companies with less profitability. Therefore, the need for cash holding in these companies is less due to increased financial flexibility and access to external sources (Lakshman et al., 2012). Therefore, from the point of view of balance, a company's profitability ratio with cash held in the company is negative.

Cash is the result of financing and investment activities. According to the hierarchy of finance, the domestic financial resources are the first option in the financing because they are low cost and the most accessible source of financing for the company, therefore, as soon as they can, companies will try to increase their domestic financial resources, and the more cash flow to the company cause that more companies will hold up more cash to boost their liquidity (Ezie, 2014). It is expected that the company's profitability ratio and the cash kept in the company will be positive. According to the free cash flow theory, the company's profitability will bring cash flows to the company. It allows the manager to add resources to his company by adding cash to the company; therefore, it is expected that a company's profitability ratio with cash held in the company would be positive.

2.2. International background

In their research, Bibi et al. (2017) investigated the relationship between liquidity and profitability (Karachi stock exchange case study) during the 2007-2011 years. This research indicates a significant relationship between the current ratio, total asset logarithm, and net sales logarithm with net operating profit ratio. There is a significant relationship between total asset logarithm and net sales logarithm with return on assets. Vintil and Nenu (2016) investigated the relationship between Romanian companies' liquidity and profitability in 2005-2014. The results of their research showed that liquidity has a negative and significant relationship with profitability. Majeed et al. (2013), in their research, evaluated the relationship between firm performance and cash cycle. He concluded an inverse relationship between the company's cash flow cycle and performance, including return on equity, return on assets, and equity (According to Bibi, 2017). Usama (2012) examined the relationship between liquidity and profitability in Pakistani food companies for 2006-2010. He concluded that working capital management has a significant positive effect on profitability and liquidity.

Dong and Su (2010) examined working capital management's effect on companies' profitability admitted to the Vietnam Stock Exchange from 2006 to 2008. This paper tried to examine the relationship between the cycle of cash and liquidity conversion on companies' profitability. The results showed that there is a significant negative relationship between the cash flow cycle and profitability. There is also a significant negative relationship between liquidity and profitability of these companies.

In their study, Shin and Soenen (2005) investigated the relationship between liquidity and profitability in American firms. This research was conducted on 58985 American companies between 1994 and 1997. These researchers used net business cycles as indicators of profitability and concluded a negative and significant relationship between the net business cycle and the profitability ratios. They eventually believed that the pure business cycle in companies was decreased; the profitability would be increased.

Kama (1989) explained the relationship between liquidity ratios and the company's profitability during 1970 and 1984. He concluded a positive and significant relationship between current and fast ratios with companies' profitability. The net business cycle and the cash flow cycle have a negative relationship with the companies' profitability.

Mohebi et al. (2016) investigated the relationship between liquidity risk and earnings management in banks admitted to the stock exchange from 2002 to 2008. They concluded a positive correlation between credit risk and bank profit management, indicating that the bank would increase its risk management by increasing its management.

Khamyabi and Rostamabadi. (2015) examined the effect of liquidity management on the companies' profitability approved in the Tehran Stock Exchange during the period from 2010 to 2013. The results of this research indicate that there is a positive and significant relationship between liquidity management and profitability criteria. Bahar Moghadam et al. (2015) investigated the relationship between liquidity and dividend indices of each share in companies listed on the Tehran Stock Exchange for 10 years from 2003 to 2012. This research indicates a significant relationship between the current ratio, generalized liquidity index, cash and cash withdrawal period, and dividend income of each share. Still, there is no significant relationship between the immediate ratio and dividend income of each share.

Ghayebi (2014) investigated the relationship between liquidity ratios and profitability of companies listed on the Tehran Stock Exchange. This research showed that the cash-flow cycle has a significant relation with the net profit margin ratio and has no significant relationship with equity ratios, return on assets, and debt ratios. There was no significant relationship between current and fast ratios with equity returns and net profit margin ratios.

Shah Wisie and Feizabadi (2013) investigated companies' profitability and the ability to meet their obligations using liquidity ratios. In general, the use of a sample of stockbroker companies between 1389 and 1392 suggests that the cash-flow cycle ratio to current and quick liquidity ratios is stronger for firms to measure profitability.

Jafari Samimi et al. (2012) predicted Iran's liquidity using an artificial neural network during the 1353-1383 years. This study's results have shown that liquidity prediction of the years 2005-2007 is more exact with the use of the neural network.

Asadi et al. (2008) examined the relationship between profitability and liquidity in companies and their impact on dividend income. The hypothesis test results indicated a strong relationship between profitability and dividend, a weak relationship between liquidity and dividend profit, and without the impact of industry on dividend yield.

2.3. Research Hypotheses

According to theoretical foundations and research background, the research hypothesis is as follows:

H1: The neural network is used to predict the relationship between liquidity and profitability of the capital market.

H2: A backup vector machine is used to predict the relationship between liquidity and the capital market's profitability.

H3: The decision tree is used to predict the relationship between liquidity and profitability of the capital market.

3. Research Methodology

This research is in the field of positive research and terms of its purpose. Given that historical information is used to examine the research hypotheses, it is included in the quasi-experimental research group. The method of this research is inductive and post-event (using past information) type. Also, this research is descriptive – correlative research.

3.1. Collecting data

To collect information on theoretical foundations and literature on research, library resources, articles, books, and thesis have been used. For collecting statistical information, audited financial statements and notes accompanying companies approved in the capital market are available on the official website of Tehran Stock Exchange and the Rahavard Novin software and site Codal website.

3.2. Data analysis method

This research aims to use the data mining technique to predict the relationship between the capital market's liquidity and profitability. Data analysis is done in two parts: inferential statistics and descriptive statistics. In the descriptive statistics section, we use mean, mode, standard deviation, skewness, and kurtosis, and in part of inferential statistics, for prediction, we used neural network method, backup vector machine, decision tree, and regression, as well as SPSS MODLER v.18 and SPSS v.23 and MINITAB v.16 programs.

3.3. Research variables

The dependent variable is the ratio of net operating profit and returns on assets. Independent variables include net sales logarithms, return on equity, current ratio, cash flow, and total assets logarithms.

3.4. Research Model

The Bibi model (2017) has been used (Bibi, 2017).

Model 1:

$$NOI_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 CGS_{it} + \beta_3 LOGSALES_{it} + \beta_4 LOGTA_{it} + \beta_5 ROE_{it} + \varepsilon_{it}$$

NOI_{it} : Net operating profit ratio CR_{it} : Current ratio

CGS_{it} : Cash flow cycle $LOGTA_{it}$: Total asset logarithm

$LOGSALES_{it}$: Net sales logarithms ROE_{it} : Return on equity

ε_{it}: Error component

3.5. The Method of Measuring Variables

Net operating profit ratio (NOI_{it}): The net operating profit ratio is provided from model 2.

Model 2:

$$NOI = \beta_0 + \beta_1 CR_{it} + \beta_2 CGS_{it} + \beta_3 LOGSALES_{it} + \varepsilon_{it}$$

CR_{it} : Current ratio CGS_{it} : Cash flow cycle

$LOGSALES_{it}$: Net sales logarithms (Bibi, 2017)

Asset returns (ROA_{it}): This ratio calculates the return on the asset used and derives from the net profit ratio (after tax deduction) on total assets (Tehrani, 2010).

Current ratio (CR_{it}): This is the result of dividing current assets into current liabilities. This ratio represents the ability to repay current liabilities from the institution's current assets (Bibi, 2017).

The cash flow cycle (CGS_{it}) explains that the cash flow cycle is when cash is paid to purchase raw materials to be converted into inventory and until sales of products are assigned to accounts receivable. The cash flow cycle is a useful solution to assess liquidity, especially if the company has lesser financial resources (Smith and Begman, 1997). The cash flow cycle belongs to the days between receipt and payment of cash in relation to a separate operating unit. The cash flow cycle is calculated as equation 1 (Lyroudi and John, 2000).

Equation 1:

$$CGS = ICP + RCP - PCP$$

ICP: Frequency of inventory turnover

RCP: The number of receivable accounts flows

PCP: Number of payable accounts

Total asset logarithm ($LOGTA_{it}$): The logarithm of the company's total assets in year t (Bibi, 2017).

Net sales logarithms ($LOGSALES_{it}$): The logarithm of net sales of the company i in year t (Bibi, 2017).

Return on equity (ROE_{it}): Return on equity (special value) shows the net profit generated against each equity share. Whatever this ratio is increased, shareholders' profitability will be increased too and provided by profit ratio (after tax) per equity.

3.6. Statistical Population and Sample Size

The statistical population of this research is the capital market during the period 2013 to 2018. In this study, the systematic deletion method was used to determine the statistical sample. Therefore, those statistical society companies that have the following conditions are selected as statistical samples, and the rest are excluded:

-Accepted in the capital market before the 2013 year;

-In terms of increasing comparability, their financial period ended in March and did not change its financial period during the years.

Due to the activity's specific nature, they should not be a part of the company's financial intermediation industry activity.

-Information about their financial statements should be available for the period of evaluation processes.

According to the Tehran Stock Exchange (TSE), 642 companies in the capital market were active in 40 different industries. Based on the above conditions and limitations, among these companies, 147 companies from 25 different industries have been selected as the statistical sample of the research.

4. Research Findings

4.1. Descriptive statistics

The summary of the status of the descriptive statistics of the variables of the model, according to Table 1 shows as follows:

Table 1. Descriptive statistics of research variables.

Return on equity	Total asset logarithm	Net sales logarithms	Cash flow cycle	Current ratio	Asset returns	The net operating profit ratio	
882	882	882	882	882	882	882	No.
4.584225	14.029533	13.729531	1.214779	1.540337	0.169896	16.484648	Mean
0.493313	13.878051	13.628854	0.841037	1.306834	0.134297	16.003934	Mode
19.8940906	1.4224011	1.3611102	2.6237265	1.0471967	0.3100959	3.1070316	Standard Deviation
7.177	0.697	0.542	15.085	5.085	21.875	9.751	Skewness
59.868	1.224	0.976	288.792	40.079	578.366	159.694	Kurtosis
0.0024	10.0312	9.421	0.066	0.2701	0.0004	10.4441	Min.
250.4092	19.1062	18.4405	58.3803	13.1506	8.448	75.0449	Max.

According to Table 1, the analysis of the central indices, the dispersion of the research variables is as follows:

1) The operating profit ratio includes 16.485, the median of 16.004, standard deviation

3.107, skewness and kurtosis, 9.751 and 159.694, respectively.

2) The return on assets has a mean of 0.169896, a median of 0.134297, a standard deviation of 0.3100959, and skewness and kurtosis of this variable of 21.875 and 578.366, respectively.
3) The current ratio has a mean of 1.540337, a median of 1.306834, a standard deviation of 1.0471967, and skewness and kurtosis of this variable is 5.085 and 40.079, respectively.
4) The cash-flow cycle has a mean of 1.214779, a median of 0.841037, a standard deviation of 2.6237265, and skewness and kurtosis of this variable is 15.085 and 288.79, respectively.
5) The net sales logarithm has a mean of 13.729531, a median of 13.628854, a standard deviation of 1.3611102, skewness and kurtosis of this variable of 0.542 and 0.976, respectively.
6) The total logarithm of the asset has an average of 14.029533, a mean of 137.878051, a standard deviation of 1.4224011, and skewness and kurtosis of this variable of 0.697 and 1.224, respectively.
7) Equity returns have a mean of 4.584225, a median of 0.493313, a standard deviation of 19.8940906, skewness and kurtosis of this variable being 7.177 and 59.868, respectively.

Investigating the degree of skewness and kurtosis of variables showed that these variables do not normally have a normal distribution.

4.2. Kolmogorov-Smirnov test

The output results of the Kolmogorov-Smirnov test in SPSS 23 for these variables are described in Table 2:

Table 2. Kolmogorov-Smirnov test.

The significance level	The net operating profit ratio	Indicator
0.000	0.179	Statistics

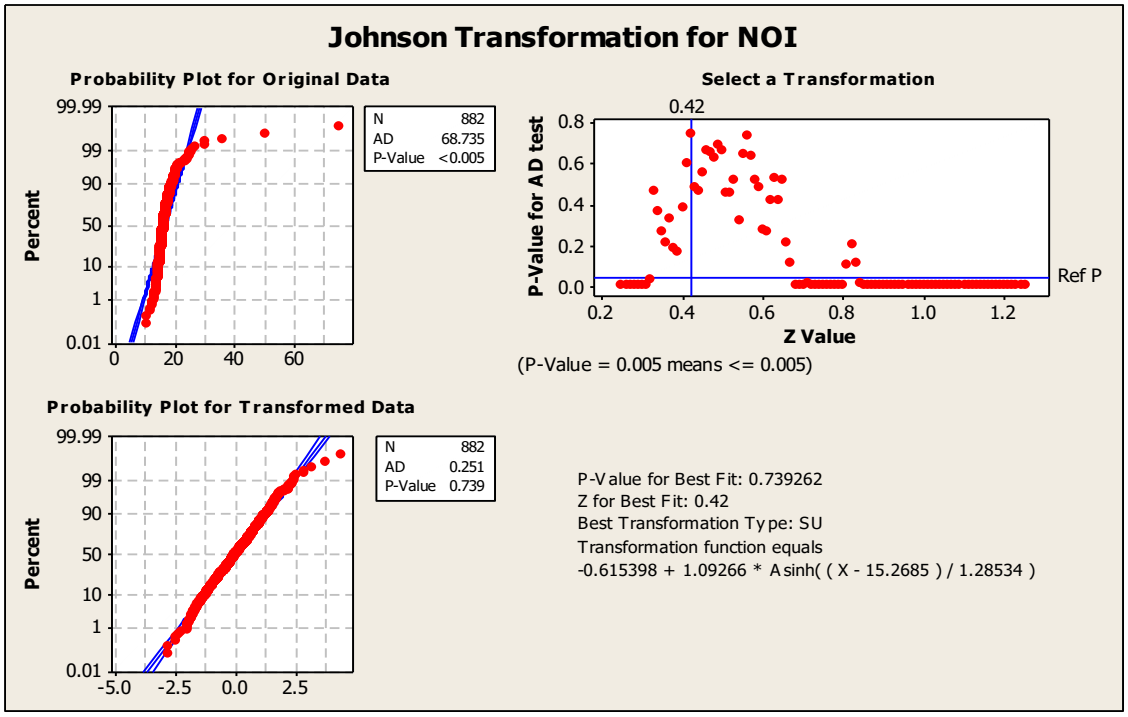

Chart 1. Johnson Conversion Net Operating Profit Ratio.

Considering that the significance level obtained for the ratio of net operating profit is equal to 0.0000, this value is less than 0.05, this variable's distribution is not normal. Therefore, the Johnson transformation method has been used for normalization.

After applying the Johnson transformations, the results of the Kolmogorov-Smirnov test are as follows:

Table 3. Kolmogorov-Smirnov test after normalization process.

Significance level	The net operating profit ratio	Indicator
0.21	0.013	**Statistics**

If the level of significance is greater than 0.05, then our dependent variable is normal, and this is the case with this variable, and our dependent variable is normalized.

4.3. Correlation between research variables

Table 4. Correlation Coefficient.

The net operating profit ratio			
Interpretation (the type of relationship)	**Significance level**	**Correlation coefficient**	
Straight and significant	0.000	0.422	Current ratio
Straight and significant	0.000	389	Cash flow cycle
Straight and significant	0.000	0.642	Net sales logarithms
Straight and significant	0.000	0.732	Total asset logarithm
Straight and significant	0.000	0.293	Return on equity

5. Estimation of Research Hypotheses

5.1. Estimation of the first hypothesis

Hypothesis 1: The neural network is used to predict the relationship between liquidity and profitability of the capital market; H_0 and H_1 of this hypothesis are as follows:

H_0: Neural network is used to predict the relationship between liquidity and profitability of the capital market.

H_1: Neural network is not used to predict the relationship between liquidity and profitability of capital markets.

Assign the number of sample members

In this study, according to Table 5, 71.43% of data is equivalent to 630 data as a training sample, and 28.57% of the data is equivalent to 252 data as a test sample.

Table 5. Assignment of sample members.

Percentage	Number		
71.43	630	Training	Sample
28.57	252	Testing	
100	882	Total	

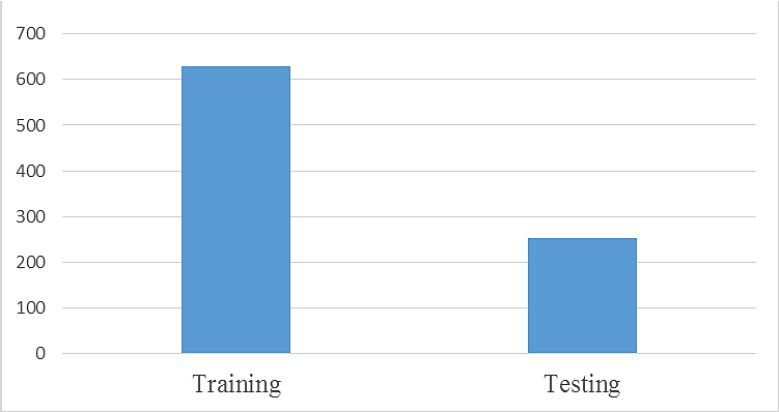

Chart 2. Assigning the number of sample members

Summary of Neural Network Model

In order to predict the use of an artificial neural network model with the following specifications, which is also mentioned in Table 6:

1) Input layer with 5 units
2) The number of units in the middle layer (2 units)
3) Output layer with one unit
4) Hyperbolic Tangent: activity function used in the middle layer
5) Decision criterion for learning: mean absolute error
6) Decision criteria for choosing the best network structure: mean absolute error
7) Selection of the most effective variables in prediction: Intrusion Factor Strategy

Table 6. Summary of Neural Network Model

Current ratio	1	Independent and control variables	Input layer
Cash flow cycle	2		
Net sales logarithms	3		
Total asset logarithm	4		
Return on equity	5		
5	Number of input layers		
2	The number of units in the middle layer		Middle layer
Hyperbolic Tangent	Used function		
1	1	The dependent variable	Output layer
1	Number of middle layers		
Linear	Used function		
Average absolute error	Error function		

Neural Network Structure and Topology (Neural Network Architecture)

The neural network structure and the topology (neural network architecture) in Fig. 3 indicate that the neural network architecture has 1 dependent variable, 2 intermediate variables, and 5 independent variables.

Selection of the Best Network Structure to Predict

The absolute error obtained from this model's fit is 0.305 in the training sample, and the error value obtained in the testing test is 0.034. Since the error rate obtained in the Testing sample is less than the training sample, therefore fitting the model is acceptable.

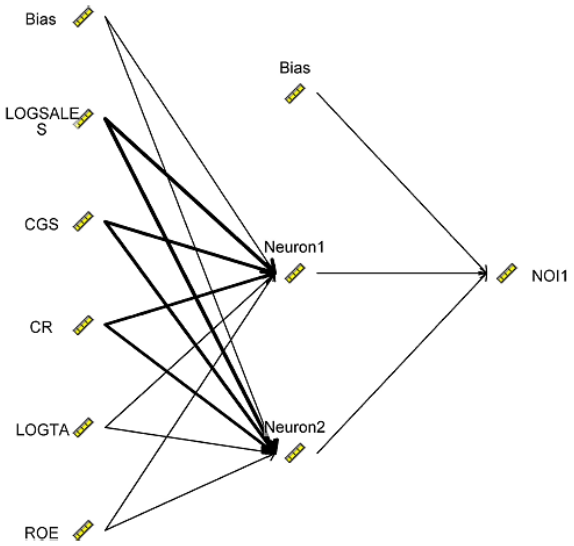

Chart 3. Neural Network Architecture.

Table 7. Selecting the best network structure for prediction.

	Minimum error	Maximum error	Average error	Average absolute error
Training	-0.266	1.453	0	0.035
Testing	-0.191	0.328	-0.003	0.034

Neural Network Estimation Accuracy

According to Table 8, the linear correlation in the training sample is 0.997. The testing sample is 0.999, which indicates accuracy in estimating both training and testing samples. The accuracy of the estimation is also 99.7%.

Table 8. Neural Network Estimation Accuracy.

Total	Testing	Training	
0.997	0.999	0.997	Linear correlation (estimation accuracy)

Ordering the effect of variables on prediction

In this study, based on the Bibi et al. (2017) model, a prediction of the ratio of net operating profit to the independent variable of the current ratio, cash flow cycle, net sales logarithm, total asset logarithm, and equity returns using the neural network method has been used. The ordering of the importance of independent variables in the neural network structure model is shown in Table 9 and Figure 4.

Table 9. How to enter variables into the neural network model

Priority	Level of importance	Independent and controllable variables
1	0.3786	Net sales logarithms
2	0.3182	Cash flow cycle
3	0.2701	Current ratio
4	0.0189	Total asset logarithm
5	0.0142	Return on equity

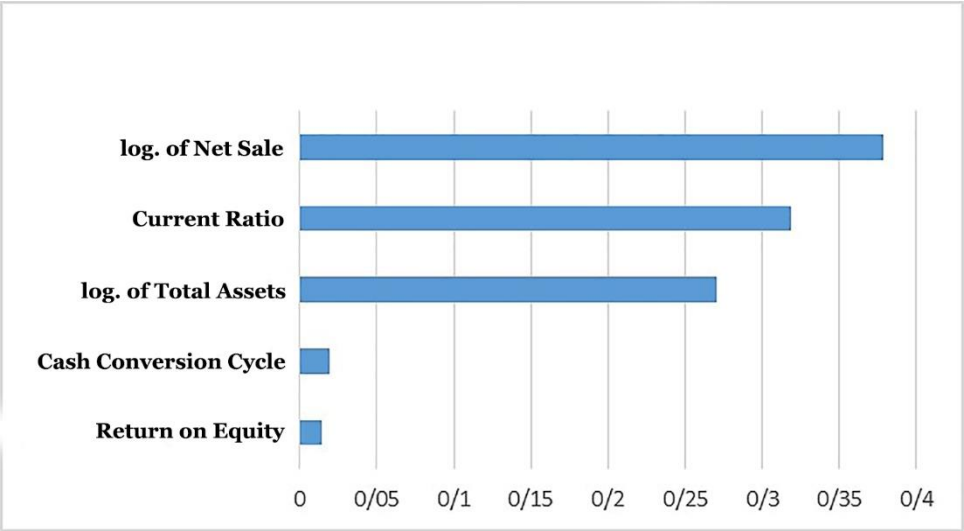

Chart 4. How to enter variables into the neural network model

5.2. Estimation of the Second Hypothesis of the Research

Second hypothesis: A backup vector machine is used to predict the relationship between liquidity and profitability of the capital market; H_0 and H_1 of this hypothesis are as follows:

H_0: The backup vector machine is used to predict the relationship between liquidity and profitability of the capital market.

H_1: The backup machine is not used to predict the relationship between liquidity and profitability of the capital market.

Assign the Number of Sample Members

In this study, according to Table 10, 71.43% of the data is equivalent to 630 data as training sample (learning), and 28.55% of the data is equivalent to 252 data as the test sample.

Table 10. Assignment of sample members.

Percentage	Number		
71.43	630	Training	Sample
28.57	252	Testing	
100	882	Total	

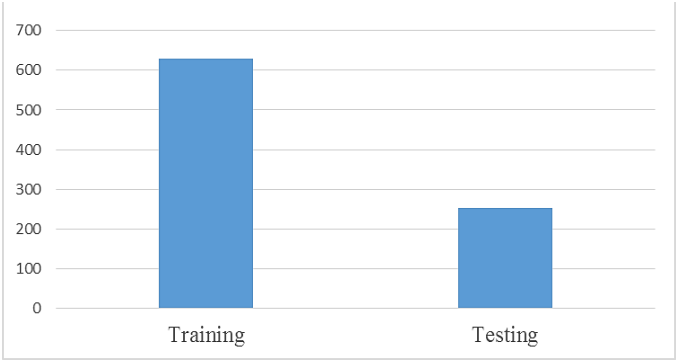

Chart 5. Assignment of sample members.

Summary of Vector Backup Model

In order to predict the use of a backup vector machine with the following specifications, which is also mentioned in Table 11.

1) Input layer with 5 units
2) Output layer with one unit
3) The algorithm: LSVM
4) Decision criterion for learning: mean absolute error
5) Decision criteria for choosing the best network structure: mean absolute error
6) Selection of the most effective variables in prediction: Intrusion Factor Strategy

Table 11. Summary of vector support model.

Current ratio	1	Independent and control variables	Input layer
Cash flow cycle	2		
Net sales logarithms			
Total asset logarithm	4		
Return on equity	5		
5	Number of input layers		
The net operating profit ratio	1	Dependent variable	Output layer
LSVM	Algorithm		
Linear	Function used		
Average absolute error	Error function		

Select the Best Network Structure to Predict

The mean absolute error obtained from this model's fit is 0.262 in the training sample, and the error value obtained in the testing sample is 0.24. Since the error rate obtained in the Testing sample is less than the training sample, therefore fitting the model is acceptable.

Table 12. Selecting the best network structure for prediction

	Min. error	Max. error	Ave. error	Average absolute error
Training	-9.722	1.424	-0.013	0.262
Testing	-1.544	0.857	0.02	0.24

The Precision of the Vector Backup Machine

According to Table 13, the linear correlation in the training sample is 0.872, and in the testing sample, it is 0.955. This is an indication of accuracy in estimating both training and testing. The accuracy of the estimation is also 0.892.

Table 13. Estimation accuracy of vector support machine.

Total	Testing	Training	
0.892	0.955	0.872	Linear correlation (estimation accuracy)

Arrays the Effect of Variables on Prediction

In this paper, based on the Bibi et al. (2017) model, we used the support of a backup machine to predict the ratio of operating profit from the independent variable of the current ratio, cash turning cycle, net sales logarithms, total logarithms, and return on equity. The order of the importance of independent variables in the model of the structure of the backup vector machine is shown in Table 14 and the following diagram.

Table 14. How to enter variables into backup vector machine model

priority	Level of importance	Independent and control variables
1	0.42	Net sales logarithms
2	0.24	Current Ratio
3	0.19	Total asset logarithm
4	0.15	Cash flow cycle
5	0	Return on equity

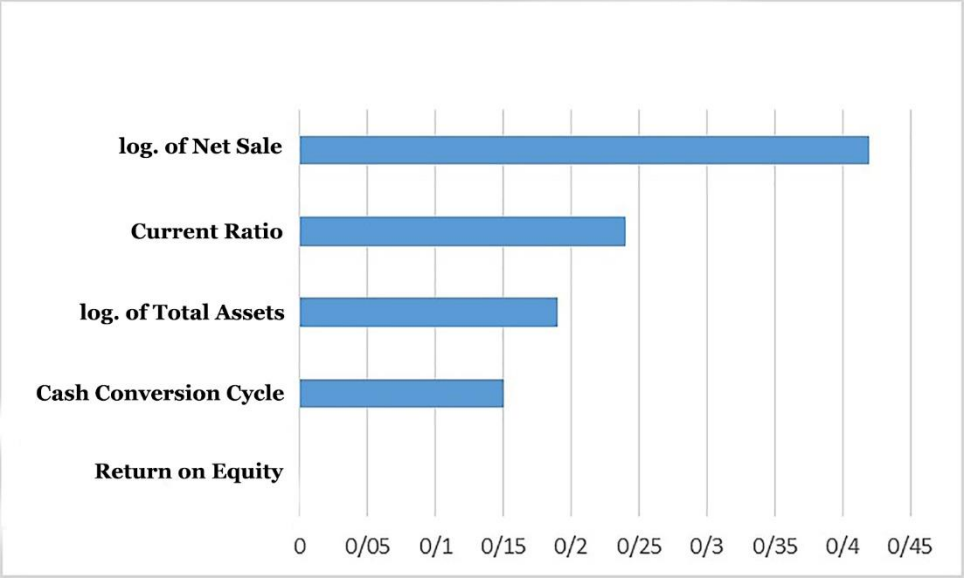

Chart 6. How to enter variables into a backup vector machine model

5.3. Estimation of the Third Hypothesis of Research

Hypothesis 3: The regression method is used to predict the relationship between liquidity and profitability of the capital market; H_0 and H_1 of this hypothesis are as follows:

H_0: The regression method is used to predict the relationship between liquidity and profitability of the capital market.

H_1: The regression method does not apply to predict the relationship between liquidity and profitability of capital markets.

Model Summary

Table 15 summarizes the regression of the third hypothesis:

Table 15. Model summary.

Correlation coefficient	Coefficient of determination	The adjusted coefficient of determination	Error standard deviation	Independent variable	Dependent variable
0.928	0.861	0.860	0.369292	1. Return on equity 2. Current ratio 3. The net sales logarithm 4- Cash Conversion Cycle 5. Total property logarithm	The net operating profit ratio

In this hypothesis, the correlation coefficient is equal to (0.928). This indicates a correlation among the return variables of equity, current ratio, net sales logarithms, cash flow cycle, and total asset logarithm with the net operating profit ratio. In this hypothesis, the variable of return on equity, current ratio, net sales logic, cash flow cycle, total asset logarithm can account for 86% of the net operating profit ratio.

ANOVA Test

The results of this test are summarized in Table 15.

Table 15. ANOVA test

Sig.	F	Average squares	df	Sum of squares	
0.000	1086.64	148.193	5	740.963	Regression
		0.136	876	119.466	Residual
			881	860.429	Total

According to Table 15, the significance level calculated for the statistics is equal to 0.0000 and indicates that the regression is significant at the 95% level.

Coefficient of Regression Effect

The regression effect table provides us with the necessary information to predict the dependent variable. The results of this test are summarized in Table 16.

Table 16. Coefficient of regression effect.

Significance level	T	Standardized coefficient of regression	Non-standardized coefficients		Variables
			Standardized Error	β	
0.000	-60.116		0.151	-9.082	Constant factor
0.000	36.250	0.473	0.012	0.447	Current ratio
0.000	17.722	0.274	0.006	0.103	Cash flow cycle
0.000	8.542	0.310	0.026	0.225	Net sales logarithms
0.000	14.574	0.533	0.025	0.370	Total asset logarithm
0.000	-8.099	-0.118	0.001	-0.006	Return on equity

In this research, the significance level of all variables is less than 5% less. Therefore, there is a significant relationship between the return on equity ratio, current ratio, net sales logarithm, cash flow cycle, total asset logarithm, and net operating profit ratio. The standardized regression coefficient also shows the effect of variables on the dependent variable. In this hypothesis, the standardized regression coefficient shows the effect of the independent variable on the dependent variable, for example:

1) For the current ratio variable, the standardized regression coefficient is equal to 0.473, which indicates the effect of the current ratio variable on the net operating profit ratio. It means that, by increasing one unit of the current ratio, the ratio of net operating profit increases to 0.473 units. Therefore, there is a significant and direct relationship between the current ratio with the net operating profit ratio.
2) For the cash flow cycle variable, the standardized regression coefficient is equal to 0.274, which indicates the effect of the variable of the cash flow cycle on the net operating profit ratio. It means that, by increasing one unit of the cash flow cycle, the net operating profit ratio increases to 0.274 units. Therefore, there is a significant and direct relationship between the cash flow cycles with the net operating profit ratio.
3) For the net sales logarithm, the standardized regression coefficient is equal to 0.310, which indicates the effect of the net sales logarithm variable on the net operating

profit ratio. It means that, by increasing a unit of the logarithm of net sales, the ratio of net operating profit increases by 0.310 units. Therefore, there is a significant and direct relationship between the net logarithms with the net operating profit ratio.

4) For the variable logarithm of the total assets, the standardized regression coefficient is equal to 0.533, which indicates the effect of the total logarithmic variables on the net operating profit ratio. It means that, by increasing one unit of the total asset logarithm, the ratio of net operating profit to 0.533 units increases. Therefore, there is a significant and direct relationship between the total asset logarithms and the net operating profit ratio.

For the equity return variable, the standardized regression coefficient equals -0.118, which indicates the effect of the return on equity ratio on the net operating profit ratio. With the increase of one unit of return on equity, the net operating profit ratio is reduced to 0.118 points. Therefore, there is a significant and inverse relationship between return on equity and net operating profit ratio.

6. Conclusion and Discussion

This research aims to use the data mining technique to predict the relationship between liquidity and the capital market's profitability. This research's theoretical basics are based on the library method and statistical data of financial statements of 147 companies extracted in this research in the capital market from 2013 to 2018 years. The data mining technique was used for data analysis, and SPSS MODLER 18 and SPSS 23 software were used to analyze the research results. The results of the research hypotheses are as follows:

Table 17. Summary of the results of research hypotheses.

Impact	**Accept or Reject**	**Description of Hypothesis**	**Hypothesis number**
√	Accept	The neural network is used to predict the relationship between liquidity and profitability of the capital market.	1
Interpretation: Since the testing sample's error rate is less than the training sample, then fitting the model is acceptable.			
Impact	Accept or Reject	Description of Hypothesis	Hypothesis number
√	Accept	A backup machine vector is used to predict the relationship between liquidity and the capital market's profitability.	2
Interpretation: Since the testing sample's error rate is less than the training sample, then fitting the model is acceptable.			
Impact	Accept or Reject	Description of Hypothesis	Hypothesis number
√	Accept	The regression method is used to predict the relationship between liquidity and profitability of the capital market.	3
Interpretation: Since the significance level of all variables is less than 5%, there is a significant relationship between the return on equity ratio, current ratio, net sales logarithm, cash changeover cycle, the total logarithm of the asset with the ratio of net operating profit.			

The research hypotheses contradict Bibi et al.'s (2017) research, Dahiyat et al. (2016). In their research, Bibi et al. (2017) investigated the relationship between liquidity and profitability (Karachi stock exchange case study). The results of this study indicate that there is a significant relationship between total asset logarithm and net sales logarithm

with asset returns. Dahiyat et al. (2016) also investigated the relationship between liquidity and the ability to pay off debt on profitability and concluded that liquidity was significantly negatively correlated with profitability. The difference in this research results with the published research results is the lack of transparency of information in the Iranian capital market.

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Research Article

Audit Expectation Gap in Islamic Countries

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Abstract

The present study focuses on the audit expectations gap and its coping strategies from the users' perspectives in Iran and Iraq. The audit expectations gap's coping strategies include audit report type, users' training, and related rules and regulations.

Data collected from an equal distribution of 400 questionnaires between the users of financial statements in Iran and Iraq. The statistical population includes auditors, bank staff, investors, and university students from 2019-03 to 2019-07.

The study results indicated no research variable (users' training, type of audit report, and setting standards) could reduce Iran and Iraq's audit expectations gap.

The research variables in Iran and Iraq's statistical population had no significant effect on reducing the expectations gap, and it is expected that several other factors contribute to this issue.

Keywords: Expectation Gap, Type of Audit Report, Users' Training, Standards Setters.

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1. Introduction

By reviewing the related literature on accounting and corporate governance in other subjects, we could observe that accounting is considered an invaluable tool in the practical use of resource allocation and economy globally (Yao Gbadago, 2015; Saladrigues & Grano, 2014; Ramlugun, 2014). Furthermore, accounting plays a leading role in helping the effectiveness and optimal functioning of business operations, investment, and economic markets by adding value to the financial statements (Otalor and Okafor, 2013). An Independent auditor is an important figure in presenting a sensible truth, which means that financial statements reflect decent managerial activities during financial reporting. Thus, auditors hold the first place in reducing the expectations gap between management and users of published financial reports by approving themselves through reliable and accurate financial statements (annual reports and accounts). This includes the income statement, balance sheet, cash flow statement, manager reports, financial summary, etc. (Devi & Devi, 2014). The role of auditors has changed enormously over time, and they should be responsible for the demands of various groups. Such changes have resulted in an expectation gap that is a difference between what people expect from the auditing and what auditing is considered as objectives.

The conducted studies in different countries indicate that the so-called expectation gap is existed (Guandaru Kamau, 2013; Babatunde Adeyemi & Morte Uadiale, 2011; Ebimobowei, 2010). A public answer to this issue is establishing accounting and auditing standards and enacting some rules and regulations (Guandaru Kamau, 2013). However, the provided solutions in a certain company may be inefficient in another, in that auditing is under the influence of the working environment. Without understanding the existing interactions in business settings that affect the nature, objective, facilities, and auditing limitations, proposing a solution for omitting or minimizing the expectation seems not applicable. Such is the case in countries with a transient economy and vague interactions in a business setting (Saeidi, 2012). Public ownership of economic institutions, financing through public participation, and privatization of the public sectors and affiliated agencies are among the main factors of fundamental changes in Iran's economic setting. In such a situation, the transparency and quality of non/financial information, based on investors' most economic decisions and actual and potential lenders, is of utmost importance. In case that a considerable amount of information is required for users is processed and reported by the management of economic institutions, it seems necessary to be roughly ensured of the information quality (Salehi, 2011). By separating ownership from corporate management and by accumulating enormous financial resources derived from the aggregation of small capitals and as declared by the agency theory, there is a conflict of interest between the proper and efficient use of such resources to succeed in the maximization of wealth and interests of capital owners and corporate ownership (Guandaru Kamau, 2013). In such cases, independent auditors and refining information seem necessary to omit or minimize the effects of such a conflict of interest and serve both parties' interests. From the viewpoint of this theory, the central role of the independent audit profession is accreditation. Performing this role would place the auditors in a unique and enviable community (Kimutai & Jepchirchir, 2012). Initially, both auditors and users of financial statements have the same idea about audit roles in business and the economy. The experimental and conducted studies in this field, however, are indicative of the expectations gap between these two groups. Several factors are included informing the expectations gap between auditors and users of financial statements (Agyei, Kusi Aye, and Yeboah, 2013).

In some cases, users' expectations are higher than the expected responsibility in regulations and professional standards, which would cause the creation of false images for auditors, who can present an absolute truth about the authenticity of financial

statements. This would lead to an expectation gap between audit operations users and auditors (Agyei et al., 2013). In some situations, the audit expectations gap is attributed to a public defect in understanding the audit nature and limitations (Saeidi, 2012). Further studies expressed that audit information users could not understand the audit (Saladrigues & Grano, 2014; Yao Gbadago, 2015). Hence, in general, the community needs the training to establish logical expectations about auditors' duties.

2. Theoretical Principles

Liggio (1974) introduced the term "expectations gap" as the difference between the actual and expected performance. This definition was developed in 1978 by the commission on auditors' responsibilities and meant a gap between requirements, public expectations, and auditors' accessible expectations (AICPA, 1978). Monroe and Woodliff (1993) introduced the expectations gap as the difference between auditors' and public beliefs on auditors' responsibilities and duties. Jennings et al. (1993) argued that the expectations gap represents the difference between public expectations on responsibilities and duties of auditing and what auditing is actually can perform. Porter (1993) defined the expectation-performance gap as the gap between the community's expectations about auditors' and auditors' actual performance.

2.1. Audit report form and audit expectation gap

In recent decades, the audit report has been subject to change and improvement to modify users' situations through annual reports. In 1978, the commission on auditor's responsibilities set up a committee named Cohen and suggested that the audit report be elaborated as a certain review of the auditor's role and responsibility. Thus, an auditor's report requires a standard audit report (Boyd et al., 2001). Chung (1995) conducted a study on two auditors from six large public accounting companies and six small companies in America. He concluded that the former is a combination of confidential and qualified auditors, while the latter is a combination of good and highly confident auditors. The results of both groups showed some sort of inclination toward reliability. The presence of a standard audit report form leads to the auditors' understanding of their auditing duties. Therefore, we could partly improve the expectations gap by combining efficient auditors and enforceable standard reports. Hypothesis 1: there is a significant relationship between audit report appropriateness and the level of audit expectations gap.

2.2. The role of users' training and audit expectation gap

Epstein and Geiger (1993) declared that the audit expectations gap could be partly justified by increasing public understanding of auditor nature, which means that the role of users' training moves from financial statements toward accountable auditors. Moreover, AICPA recommends the users increase the customer and audit committee training sessions in meetings and organizations to reduce the auditor's expectation gap. Hussain (2003) showed in his research that the optimal solution for reducing the audit expectations gap and users' training is contingent on auditors and their accountability. Hypothesis 2: there is a significant relationship between users' training range and the level of audit expectations gap.

2.3. The role of setting standards in reducing audit expectation gap

In 1988, the accounting standards board (ASB) issued nine declarations on accounting standards as the standard of expectations gap, classified into the following groups: 1. Detecting frauds and illegal actions (declaration No. 52): auditing to detect and report the errors. Declaration No. 54: illegal actions by customers are a more effective inspection. Declaration No. 55: paying attention to the structure of internal controls in the financial

statement audit. Dewing and Russell (2002) conducted research to assess the existence of audit expectations gap in England to improve the issue and declared that the presence of such a problem in developed or developing countries asks for endless decision making efforts to affect the various clients and benefit from the advantages of an annual corporate report from other companies.

Hypothesis 3: there is a significant relationship between setting standards and the audit expectation gap level.

2.4. Expectations gap

Various user groups of financial statements require information about the financial status and economic performance to take economic, planning, and monitoring decisions. Such information is presented through financial reporting, the main product of a set of financial statements, and their descriptive notes. Financial statements' information is useful when they have the required qualitative characteristics(Salehi, 2016; Salehi et al., 2019). Qualitative information analysis should be carried out by a qualified person other than the providers of those statements, who is the independent auditor (Aghaei et al., 2010). Professional judgment, decision-making, justification, and passing comments are among the most important auditing issues, which lead to considerable challenges in audit quality and could affect the market reaction of professional audit services (Hassas Yeganeh, 2006). For more than 40 years, the audited financial statement users enjoy a consistent audit report (short standard report). After this period, it is expected that creditors, investors, and other users could understand the audit report and its objective more thoroughly. However, the evidence demonstrates the growth of such a gap between auditors' objectives and users' expectations (Bozorg Asl, 1998).

2.5. The existing theories and approaches to an expectations gap

According to Porter (1993), the expectations gap can be assessed from two perspectives: community expectations (either logical or illogical) and auditor performance (what the auditors do, compare with what the community is expected from auditors). Based on this perspective, two gaps are identified: logic and performance. The logical gap is the distance between what the community expected from auditors and what auditors can expect to achieve. The performance gap is the distance between what the community can logically expect from auditors to perform and what auditors achieved. The performance gap is two-sided. On the first side, it refers to the existing gap between those duties that are logically expected from auditors and the existing auditor duties defined by the related regulations and professional principles. On either side, it introduces the distance between standard expected performance from auditors' duties and the role the community is expected from auditors. The above said inherent characteristics posed some problems concerning the coordination of approaches and expectations with the actual performance (Tsamenyi and Uddin, 2009). The results of conducted studies on the "expectations gap" show that the cause of such a distance is threefold (Porter, 1993):

1- The community expectations from auditors are beyond what can be expected, logically (that is, illogical expectations);
2- The community has logical expectations from auditors, which are beyond their professional and legal responsibilities (that is, inefficient standards);
3- Community awareness of the idea that auditors are not working following their defined duties (inefficient performance).

Several theories were put forward on the causes of the expectation gap. Older beliefs attributed the existing gap to an inaccurate perception of users and the community of financial auditing. In other words, the expectations gap is appeared due to excessive expectations from auditors (Kadous, 2000; McEnroe and Martens, 2001). However, some

scholars criticized the auditing for failing to meet the minimum requirements and users' expectations. In addition, the refusal of such expertise in planning and performing due obligations for exploring fraud has resulted in the development of the expectations gap (Dewing and Russell, 2002). Moreover, the expectations gap could be created due to the contradiction between minimum state regulation and the profession's rule itself (Sikka et al., 1992). Another theory stated that by the reconstruction or more complication of business firms' activities, auditors' surveillance and accreditation process becomes tougher than the reliability of financial reports, which could bring about more inclination of investors toward such companies.

On the other hand, by its failure to respond to investors, the expertise caused the expectations gap. The expectations gap, however, is established due to time delay, which means that auditors and the expertise are asked to make an immediate response in case that a gap is grown between the expectations of expertise and community, to be able to adopt preventive measures, if possible, to be ensured of no gaps (Singh, 2009). The expectations gap often means the regulatory expectations gap between audit expertise and what auditors considered as their duties. Such issues have created a "negligible opposition gap, " which means the gap could be made by training the users of audit services by professional associations to determine what auditors' expectations are logical. Others are trying to propose a more comprehensive definition of the expectations gap by unifying the service delivery factors. More exclusively, they evaluate whether the auditors fulfill their obligations and whether these duties are owed to auditors to be met at a sensible level. Some scholars are even tried to classify the recent category into two groups of current audit quality standards and the proposed service quality by auditors. Such divergent groups' operational problems and the audit expectation gap have resulted in more concentration on the word "sensible" (Babatunde Adeyemi and Uadiable, 2011).

Regarding nature, limitations, and existing defects in the expertise and the tragic events that have taken place for some companies and audit firms, auditing is more encountered with misunderstandings recently. Besides, lack of community awareness of the obligations and professional duties of the expertise on the one hand, and the existing shortcomings in the performance of auditors, standards, and auditing guidelines, on the other hand, gave rise to the scope of such misunderstandings and led to the formation of audit expectations gap. Porter (1993) stated in research on the audit expectations gap that the previous definitions had been extremely limited, and more comprehensive evaluation is required for the expectations gap. He concluded that such an objective could be attained only by comparing community expectations from auditors with their performance. In his view, the expectations gap could be because of the following three factors:

1- Illogical expectations of users of financial statements from auditors;
2- Inappropriate auditing and accounting standards;
3- Inefficient performance (incomplete) of auditors.

Regarding the abovementioned features, many scholars declare that the concept of the expectations gap is referred to the differences between public and auditors' understanding of the obligation of auditors (Dixon et al., 2006; McEnroe and Martens, 2001). From an auditing point of view, audit expectations are known as a significant issue. Scholars express a critical subject for the independent auditor's performance and an important factor in developing standards and audit performance. According to Porter (1993), the expectations gap could increase by a growth in the community expectations or a decline in auditors' performance. While decreasing the community expectations or improvement, the auditors' performance will decrease. The expectations gap or community difference and reliable performance could be established as follows:

1- The sensible gap, which is the distance between what the community expects from auditors and what auditors can perform logically;

2- The performance gap is the distance between users' logical expectations and what they could get in reality. Such a gap could have two reasons:

1-2 the gap of standard inefficiency, which is the distance between logical expectations from auditors' duties and duties currently defined based on the auditing and accounting standards or rules and regulations and performed by auditors (Ojo, 2006);

2-2 inefficient and incomplete performance gap, which is the distance between auditors' expected duties based on the approved standards and the existing duties carried out by auditors.

Hian and Woo (1998) evaluated the role of independent auditors in the community and described the history of the expectations gap and its development through time. As we follow, a summary of studies conducted by professional association will be presented. In the present study, instead of a change in the audit report structure, we recommend having a complementary (training) note on auditing roles and limitations as an attachment to the audit report. Humphrey et al. (1997) studied the response of auditing expertise to the audit expectations gap. They proposed two main strategies, including a defensive approach to focus on training and public confidence and a constructive approach to transfer and change auditing activities to respond to public concerns. This paper is concerned about evaluating such a response and the probability of success in reducing the expectation problems in the audit structure's inherent problems as a supervisory activity. Hatherly (1991) carried out research holding a critical view of the expectation gap. This project is concerned with a certain analysis of audit expertise responses and the expectations gap using classified principles and professional theory-based analysis. This study revealed that all audit expertise measures are to help the improvement of a social well-being function. Hence, it helps manage existing social differences among various accounting services and preserve or strengthen all professional measures. This study indicated the absence of mutual exclusion of various theories and specified that experimental analysis is not sufficient individually for defining social behavior. Kimutai and Jepchirchir (1991) assessed whether these factors contribute to auditor decisions or not. This study was carried out as a pre-test/post-test, and the results substantiated the effect of both biased perception and expectation gap on the evaluation of auditor decision. However, due to students' use of accounting and law, this research does not require realism. Hian and Woo (1998) elaborated the confusion as "expectations gap quality". They showed that auditors and customers have an extremely different understanding of auditing and this gap is larger in young people. Sikka et al. (1998) discussed locating audit expectations within a social, political, and historical framework. They reasoned that in a community specified by a large social section, being away from the definition of social methods, like auditing, is controversial. Concerning social conflicts, defining social methods is the subject of continuous challenges, discussions, and the gap between rival auditing meanings that cannot be omitted. They illustrated such an interpretation through the evaluation of audit relationship with realization and fraud report. According to historical evidence, they argued that auditing objectives had been created and transformed into social relationships. Chandra Shil (2015) evaluated an entrenchment effect in reducing the expectations gap. They observed a tangible change in students after the internship program. However, they did not attribute that change to the internship program to reduce the audit expectations gap. They believed that such a program could be used to complete audit training in university, be employed as an ideal solution to pose professional issues to the students, and understand auditors' actual performance and obligations more appropriately. Tamoradi and Mosaee (2016) concluded that the so-called gap between these two financial reports is among the factors that arise ambiguity in auditors' role and users' perceptions. They also found a significant difference between expectations from users and auditors regarding auditing responsibility, confidence, and decision profitability.

Bazrafshan (2016) declared that the most important fraud risk indices from auditors' points of view are related to the appropriation of assets or embezzlement. From the students' point of view, it is related to managerial features. Nikbakht, Rezaei, and Khoram (2012) concluded that due to the dichotomy between auditing standards, the country's specific rules and regulations, and presenting additional services to clients by the audit firms, the expectations gap exists between auditors and users of financial statements. Moreover, by evaluating the respondents' point of view, they found a significant difference between auditors and users (intragroup), and there is no difference between users' perspectives (intergroup). Mehrani and Nonahal Nahr (2012) observed that increasing audit reports' clarity could cause the decline of the audit expectations gap. It seems that by following such an approach in real places, we could decrease the so-called gap. Nikomaram, Rahnamai Roodposhti, and Nonahal Nahr (2013) discovered that the audit expectations gap in Iran is severe, and modern auditing standard 700 requirements have only a slight effect on such a gap. However, presenting the report of such a standard, to some extent, could increase its attention to drawing performance. Sheibanifar and Salehi (2014) researched factors that contribute to the audit expectations gap concerning internal and external auditing challenges. They noticed that lack of community awareness of auditors' duties and responsibilities on the one hand and the existing defects in the performance of audits, auditing standards, and internal and external auditing challenges gave rise to misunderstandings and caused audit expectations gap.

3. Research Methodology

The statistical research population is selected from several independent auditors and users of financial information, audit reports, and accounting and financial management students in Iran and Iraq. Data collected by employing questionnaires. To answer the research hypotheses, an appropriate questionnaire was also designed to gather the information. The sampling method was simply random, and regarding the unknown volume of the population, the sample was gathered by considering the variance of 0.026 for the distributed questionnaires. Two hundred questionnaires were distributed and gathered in both countries. The random sample initially filled out a number of questionnaires through the pre-test to ensure reliability. The information was analyzed using the R Software, and the Cronbach's alpha was calculated as 0.78%, which means that the questionnaire is reliable.

4. Research Findings

4.1. Descriptive statistics of research variables

The quantitative descriptive analysis shows that the average audit expectations gap in Iran and Iraq is 3.8008 and 3.8358, respectively, which means that the gap is slightly higher in Iraq. The mean audit report form in Iran and Iraq is 4.0947 and 4.0915, respectively, approximately the same in both countries. The mean users' training in Iran and Iraq is 4.0911 and 4.1292, respectively, which is higher in Iraq and the average setting standards in Iran and Iraq are 4.1936 and 4.2863, respectively. The frequency analysis of qualitative variables indicates that 52.5% were auditors, 17.5% investors, 15.3% of people with bank jobs, and 14.8% academic jobs based on the occupation variable. The descriptive statistics include characteristics and statistics of the statistical research sample. This is often shown in indices of central tendency (e.g., mean, median, and mode) and indices of dispersion (range, variance, and standard deviation). Median is a value through which half of the data are less, and half of the data are more than that. This variable in Iran and Iraq is 3.7941 and 3.8235, respectively, and we have the minimum and maximum, standard deviation, and variance. We also have the same descriptions for audit report variables from users' training and setting standards.

Table 1. Results of frequency analysis of qualitative data

Variable	No. of observation	Response	Frequency	Percentage
Auditor experience	400	Auditor	380	95.0
		Investor	20	5.0
Auditor record	400	Auditor	185	46.3
		Investor	197	49.3
		Bank	18	4.5
Occupation	400	Auditor	210	52.5
		Investor	70	17.5
		Bank	61	15.3
		University	59	14.8
Work experience	400	Auditor	183	45.8
		Investor	189	47.3
		Bank	28	7.0

Table 2. Results of descriptive analysis of quantitative variables

Iran/Iraq		Audit expectations gap	Audit report form	Users' training	Setting standard
Iran	No.	200	200	200	200
	Mean	3.800	4.094	4.091	4.193
	Median	3.794	4.052	4.115	4.272
	Minimum	2.176	2.578	2.000	2.090
	Maximum	4.764	4.842	4.923	5.000
	Standard deviation	.361	.338	.374	.568
	Variance	,131	,114	,140	,323
Iraq	No.	200	200	200	200
	Mean	3.835	4.091	4.129	4.286
	Median	3.823	4.052	4.230	4.272
	Minimum	3.058	3.421	3.384	2.909
	Maximum	4.705	4.842	4.923	5.000
	Standard deviation	,3104	,308	.330	.441
	Variance	,096	,095	,109	,195
Total	No.	400	400	400	400
	Mean	3.818	4.093	4.110	4.240
	Median	3.823	4.052	4.153	4.272
	Minimum	2.176	2.578	2.000	2.090
	Maximum	4.764	4.842	4.923	5.000
	Standard deviation	,337	,323	,352	,510
	Variance	,114	,105	,125	,261

Table 3. Descriptive statistics of Iran and Iraq

Auditor experience				
Index	**Frequency**	**Percentage**	**Index percentage**	**Cumulative percentage**
1	193	96.5	96.5	96.5
2	7	3.5	3.5	100
Total	200	100	100	
Auditor record				
1	88	44	44	44

2	103	51.5	51.5	95.5
3	9	4.5	100	100
Total	200	100		
Occupation				
1	106	53	53	53
2	33	16.5	16.5	69.5
3	31	15.5	15.5	85
4	30	15	15	100
Total	200	100	100	
Work experience				
1	93	46.5	46.5	46.5
2	92	46	46	92.5
3	15	7.5	7.5	100
Total	200	100	100	
Iraq				
Auditor experience				
1	187	93.5	93.5	93.5
2	13	6.5	6.5	100
Total	200	100	100	
Auditor record				
1	97	48.5	48.5	48.5
2	94	47	47	95.5
3	9	4.5	4.5	100
Total	200	100		
Occupation				
1	104	52	52	52
2	37	18.5	18.5	70.5
3	30	15	15	85.5
4	29	14.5	14.5	100
Total	200	100	100	
Work experience				
1	90	45	45	45
2	97	48.5	48.5	93.5
3	13	6.5	6.5	100
Total	200	100	100	

4.2. Data analysis

H_0: Data distribution is normal

H_1: Dada distribution id not normal

Table 4 shows the results of the normality of the data.

According to the Shapiro-Wilk and Kolmogorov-Smirnov tests, the statistical probability value is less than 0.05 at a significance level, so the null hypothesis concerning the normality of data distribution is rejected, and no research data have this characteristic.

Table 4. Analyzing normality of data

	Test	Test statistic	Statistical probability value
Audit report form (Iran)	Shapiro-Wilk	0.96989	0.0002738
	Kolmogorov-Smirnov	0.99504	< 2.2ε-16
Audit report form (Iraq)	Shapiro-Wilk	0.98541	0.03671
	Kolmogorov-Smirnov	0.99969	< 2.2ε-16

Audit expectations gap (Iran)	Shapiro-Wilk	0.93277	ε-085.644
	Kolmogorov-Smirnov	0.98889	< 2.2ε-16
Audit expectations gap (Iraq)	Shapiro-Wilk	0.98189	0.01109
	Kolmogorov-Smirnov	0.99889	< 2.2ε-16
Users training (Iran)	Shapiro-Wilk	0.9314	ε-084.369
	Kolmogorov-Smirnov	0.99054	< 2.2ε-16
Users training (Iraq)	Shapiro-Wilk	0.97843	0.003584
	Kolmogorov-Smirnov	0.99964	< 2.2ε-16
Setting standard (Iran)	Shapiro-Wilk	0.88862	5.024ε-11
	Kolmogorov-Smirnov	0.98173	< 2.2ε-16
Setting standard (Iraq)	Shapiro-Wilk	0.95145	2.609ε-06
	Kolmogorov-Smirnov	0.99819	< 2.2ε-16

Table 5. Results of regression of the relationship between users of financial statements and audit expectation gap in Iraq

	Mean	**Standard deviation**	**T statistic value**	**A statistical probability value of the test**
Intercept	3.641	0.468	7.766	5.08ε-13
Audit report form and decreasing expectations	0.050	0.075	0.666	0.507
Training and decreasing expectations	-0.030	0.068	-0.448	0.655
Setting standard and expectations gap	0.000	0.051	0.007	0.994
Auditor experience	0.089	0.094	0.95	0.343
Auditor record (investor)	-0.004	0.047	-0.092	0.926
Auditor record (bank)	0.069	0.115	0.608	0.544
Occupation (investor)	-0.022	0.062	-0.364	0.716
Occupation (bank)	0.0470804	0.0662754	0.71	0.478
Occupation (university)	-0.0238782	0.068789	-0.347	0.729
Work experience (investor)	0.0328899	0.0474065	0.694	0.489
Work experience (bank)	0.0437175	0.0963759	0.454	0.651

4.3. Testing of the hypotheses

H_1: There is an expectations gap among the users of financial statements in Iraq.

Audit expectations gap = $\boldsymbol{\beta}$0+$\boldsymbol{\beta}$1Form Audit Report+$\boldsymbol{\beta}$2Training Users+$\boldsymbol{\beta}$3Setting The Standard+$\boldsymbol{\beta}$4Experienced auditor+$\boldsymbol{\beta}$5Background auditor+$\boldsymbol{\beta}$6Auditor jobs+$\boldsymbol{\beta}$7The auditor's job record+€

According to the results of Table 5, the obtained statistic is more than 0.05 at the significance level (P-value=0.655). Thus, we could conclude that the null hypothesis concerning no audit expectation gap between users of financial statements is accepted at a 5% significance level. We could not accept users' point of view that there is an audit expectation gap in Iraq.

Table 6. The Results of R and R^2

R Squared	Adjusted R Squared
0.018	-0.03945

The R Squared shows the model validity and has values between -1 and 1. The closest to 1, the higher is the validity. According to Table 6, all variables express 0.018% of the variance of the dependent variable.

Table 7. Test of model significance and autocorrelation

P-value	F test statistic	P-value	Durbin-Watson statistic
0.9824	0.3133	0.01308	1.6945

According to Table 7, the performed regression is not significant because the test's P-value is more than 0.05.

H_2: There is an audit expectation gap among the users of financial statements in Iran.

Audit expectations gap = β0+β1Form Audit Report+β2Training Users+β3Setting The Standard+β4Experienced auditor+β5Background auditor+β6Auditor jobs+β7The auditor's job record+€

Table 8. Results of regression of the relationship between users of financial statements and audit expectation gap in Iran

	Mean	Standard deviation	T statistic value	A statistical probability value of the test
Intercept	3.82044	0.44396	8.605	2.99ε-15
Audit report form and decreasing expectations	0.11856	0.08089	1.466	0.1444
Training and decreasing expectations	-0.06522	0.07272	-0.897	0.371
Setting standard and expectations gap	-0.05107	0.04979	-1.026	0.3063
Auditor experience	-0.01744	0.1408	-0.124	0.9015
Auditor record (investor)	-0.04739	0.05561	-0.852	0.3951
Auditor record (bank)	0.24111	0.13082	1.843	0.0669
Occupation (investor)	0.06092	0.07331	0.831	0.407
Occupation (bank)	-0.06253	0.07453	-0.839	0.4025
Occupation (university)	-0.03389	0.07709	-0.44	0.6607
Work experience (investor)	0.0249	0.0562	0.443	0.6583
Work experience (bank)	0.01127	0.10482	0.108	0.9145

According to the results of Table 8, the obtained statistic is more than 0.05 at the significance level (P-value=0.371). Thus, we could conclude that the null hypothesis concerning no audit expectation gap between users of financial statements is accepted at a 5% significance level. We could not accept users' point of view that there is an audit expectation gap in Iran.

Table 9. The Results of R and R^2

R Squared	Adjusted R Squared
0.06078	0.005823

The R Squared shows the model validity and has values between -1 and 1. The closest to 1, the higher is the precision. According to Table 9, all variables express 0.06078% of the variance of the dependent variable.

Table 10. The results of autocorrelation

P-value	F test statistic	P-value	Durbin-Watson statistic
0.3586	1.106	0.01685	1.7068

According to the results of Table 10, the performed regression is not significant because the P-value of the test is more than 0.05. Hence, the null hypothesis is accepted.

H_3: There is a significant difference in the audit expectations gap from the users' perspective in both countries.

Audit expectations gap = β0Country+β1Form Audit Report+β2Training Users+β3Setting The Standard+β4Experienced auditor+β5Background auditor+β6Auditor jobs+β7The auditor's job record+€

Table 11. The results of the third hypothesis

	Degree of freedom	Sum of squares		Test	Test
Iran/Iraq	1	0.12	0.1225	1.078	0.3
Audit report form and decreasing expectations	1	0.29	0.28662	2.523	0.113
Training and decreasing expectations	1	0.21	0.21096	1.857	0.174
Setting standard and expectations gap	1	0.07	0.07323	0.645	0.423
Auditor experience	1	0.05	0.04648	0.412	0.521
Auditor record	2	0.47	0.23427	2.062	0.129
Occupation	3	0.09	0.0306	0.269	0.847
Work experience	2	0.05	0.02619	0.231	0.794
Residual	387	43.97	0.11361		

Since the probability value of the obtained statistic (0.3) is more than 0.05 at a significance level, we could say that there is no significant difference among the audit expectations gap from users' point of view in both countries.

H_4: There is a significant relationship between the role of audit report form and the existence of the audit expectations gap in Iran.

H_5: There is a significant relationship between the role of users' training and the existence of the audit expectations gap.

H_6: there is a significant relationship between setting standards and the existence of the audit expectations gap.

Table 12. Analyzing Spearman's correlation coefficients

Hypothesis testing	country	Statistical probability value	Correlation coefficient value
Hypothesis 1	Iran	0.9073	-0.008288935
	Iraq	0.6853	-0.2882876
Hypothesis 2	Iran	0.01688	-0.1687865
	Iraq	0.3605	-0.06499134
Hypothesis 3	Iran	0.1127	-0.1125148
	Iraq	0.8364	-0.01469516

Analyzing the fourth hypothesis:

Iran: regarding the results of the table, since the P-value of the test (0.973) is more than 0.05, the null hypothesis concerning the existence of no correlation between two variables is accepted, and we could say that there is no significant relationship between these two variables. **Iraq:** regarding the results of the table, since the P-value of the test (0.6853) is more than 0.05, the null hypothesis concerning the existence of no correlation between two variables is accepted, and we could say that there is no significant relationship between these two variables.

Analyzing the fifth hypothesis:

Iran: Since the probability value of the obtained statistic is less than 0.05, the null hypothesis concerning no correlation between the two variables is rejected. We could say that there is a significant and negative relationship between these two variables**. Iraq:** Since the probability value of the obtained statistic is more than 0.05, the null hypothesis concerning no correlation between the two variables is accepted. We could say that there is no significant relationship between these two variables**.**

Analyzing the sixth hypothesis:

Iran: Since the probability value of the obtained statistic is more than 0.05, the null hypothesis concerning no correlation between the two variables is accepted. We could say that there is no significant relationship between these two variables**. Iraq:** Since the probability value of the obtained statistic is more than 0.05, the null hypothesis concerning no correlation between the two variables is accepted. We could say that there is no significant relationship between these two variables**.**

Hypothesis 7: there is a significant relationship between the role of various factors in reducing the audit expectation gap and the existence of such a gap (Iran and Iraq).

Audit expectations gap = β0+β1Form Audit Report+β2Training Users+β3Setting The Standard+β4Experienced auditor+β5Background auditor+β6Auditor jobs+β7The auditor's job record+€

Analyzing the seventh hypothesis:

The probability value obtained from test statistics for three training variables and decreasing expectations, setting standards, and expectations gap is more than 0.05 at the significance level. Therefore, we could conclude that the null hypothesis concerning no significant relationship between the role of various factors in reducing audit expectations gap and the existence of such a gap is accepted at a 5% significance level. Accordingly, there is no significant relationship between these three variables and the audit expectations gap in Iran.

Table 13. Regression analysis of various factors in reducing audit expectation gap and the existence of such a gap in Iran

	Mean	**Standard deviation**	**T statistic value**	**A statistical probability value of the test**
Intercept	3.82044	0.44396	8.605	2.99ε -15
Audit report form and decreasing expectations	0.11856	0.08089	1.466	0.1444
Training and decreasing expectations	-0.06522	0.07272	-0.897	0.371
Setting standard and expectations gap	-0.05107	0.04979	-1.026	0.3063

Auditor experience	-0.01744	0.1408	-0.124	0.9015
Auditor record (investor)	-0.04739	0.05561	-0.852	0.3951
Auditor record (bank)	0.24111	0.13082	1.843	0.0669
Occupation (investor)	0.06092	0.07331	0.831	0.407
Occupation (bank)	-0.06253	0.07453	-0.839	0.4025
Occupation (university)	-0.03389	0.07709	-0.44	0.6607
Work experience (investor)	0.0249	0.0562	0.443	0.6583
Work experience (bank)	0.01127	0.10482	0.108	0.9145

Table 14. Regression analysis of various factors in reducing audit expectation gap and the existence of such a gap in Iraq

	Mean	**Standard deviation**	**T statistic value**	**A statistical probability value of the test**
Intercept	3.6417611	0.4689313	7.766	5.08ε-13
Audit report form and decreasing expectations	0.0500773	0.0752453	0.666	0.507
Training and decreasing expectations	-0.0308216	0.068824	-0.448	0.655
Setting standard and expectations gap	0.0003855	0.0516848	0.007	0.994
Auditor experience	0.0897251	0.0944216	0.95	0.343
Auditor record (investor)	-0.0044011	0.047597	-0.092	0.926
Auditor record (bank)	0.0699627	0.1150831	0.608	0.544
Occupation (investor)	-0.0226303	0.0621644	-0.364	0.716
Occupation (bank)	0.0470804	0.0662754	0.71	0.478
Occupation (university)	-0.0238782	0.068789	-0.347	0.729
Work experience (investor)	0.0328899	0.0474065	0.694	0.489
Work experience (bank)	0.0437175	0.0963759	0.454	0.651

The probability value obtained from test statistics for three training variables and decreasing expectations, setting standards, and expectations gap is more than 0.05 at the significance level. Therefore, we could conclude that the null hypothesis, which says that "there is no significant relationship between the role of various factors in reducing audit expectations gap and the existence of such a gap", is accepted at a 5% significance level. Accordingly, there is no significant relationship between these three variables and the audit expectations gap in Iraq.

5. Conclusion

The first hypothesis states that there is no significant relationship between the audit report form, reducing the audit expectations gap, and the audit expectations gap in Iran and Iraq. The results indicated that the type of audit report in Iran and Iraq does not lead to the decline of audit expectations and this finding is in line with the results of Kose and Erdogan (2015). The second hypothesis expresses a significant relationship in Iran between the role of users' training in reducing the audit expectations gap and the existence

of such a gap. At the same time, there is no such relationship in Iraq. The results revealed that users' training could decrease Iran's expectations gap, but there was no relationship between users' training and the audit expectations gap in Iraq. The yield results align with Aghaei, Mosazadeh Abbasi, and Jahanara (2010). The third hypothesis asserts that there is no significant relationship between setting standards for decreasing the audit expectations gap and the existence of such a gap.

Regarding the test results of section four of the present research, it was specified that although setting rules and standards would not reduce the audit expectations gap in Iranian and Iraqi respondents, lack of applicable rules and regulations in both countries have caused the issue. The results of this hypothesis are in line with that of Dewing and Russell (2002), Sikka et al. (1998), and Ebimobowei (2010). The fourth hypothesis declares that there is no relationship between the role of various factors in reducing the audit expectations gap and the existence of such a gap. The results illustrate that no research variable, including users' training, audit report form, and setting standards (in both countries), reduces the audit expectations gap.

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Research Article

Providing a Practical Model for Designing an Accrual Accounting System at State Universities

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Abstract

Over the past years, the demand for accrual accounting in the public sector, including universities, has increased for various reasons, including better accountability and managing expenses, assets, and liabilities. As an information system, accrual accounting improves the organization by providing quality information for planning, accountability, monitoring, and managers' control. It also provides better monitoring and comprehensive evaluation of the performance of public sector organizations for stakeholders. According to the above, several regulations require universities to change their current system and implement accrual accounting. Due to this and the lack of an empirical model for designing an accrual accounting system in the universities, the main goal of the paper is to present a comprehensive model for designing an accrual accounting system in the universities. The model is designed based on the theoretical foundations in the scientific and research resources and the authors' professional experience, taking into account the Iranian universities' specific conditions. It should be noted that the designed model has been implemented in one of the largest universities in Iran, which adds to its applicability and performance.

Keywords: Accrual Accounting, Cash Basis, Implement Model, Universities

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1. Introduction

The limitation of economic resources makes it necessary to apply smart methods to optimize using those resources. Accounting information is of the most significant and valuable information which are involved in applying these resources. Accounting provides the same basis and comprehensible information for evaluating value relative and rate of return on economic resources. The public sector also is not an exception. Public accountability is considered a need for the democratic process and a complement for public sector management. Accountability in five levels including strategy, plan (efficacy), performance (economic efficiency), planning process, allocation and administration of affairs, commitment and legitimacy (observing rules and regulations) in the public sector, has been resulted in its complexity compared to the private sector (Kordestani 2007).

Public accountability consists of two aspects of fiscal accountability and operational accountability, that each one has its own characteristics (Babajani 2003). Users of the government financial statements are increasingly expected to provide them some information about assets, liabilities, and effects of current consumption on the net assets held. There is no possibility of providing such information in cash accounting. Cash accounting is merely a report of input and output cash flows and held cash balance (IFAC Public Sector Committee, 2000). Financial reports based on accrual accounting help the user evaluate the reporter unit's accountability against resources under their control, financial status, financial performance, and cash flows of the reporter unit and then decide about supplying resources or doing a transaction with it (IFAC[1] 2011).

As per clause A, article 49 of the act for the fourth cultural, social and economic development plan of the Islamic Republic of Iran approved in 2004 and article 10 of the act for goals, tasks, and organization of the Ministry of Science, Research & Technology, financial, administrative and employment independence have been granted to the universities and higher education institutes and their affairs are administered merely according to special by-laws approved by the respective board of trustees. Considering these articles' provisions, cost credits are allocated to the administrative authorities out of the general government budget according to the finished prices. The budget will be provided based on an operation requiring the development of accounting and financial reporting system level (Babajani & Madadi, 2009). Whereas, accrual accounting, by providing a more accurate picture of assets, liabilities, revenues, expenses, precise control of revenues and other sources of financing, provides more accurate financial information and reports, thereby improves the planning situation and public sector accountability and then helps to better monitoring of the performance of organizations through improving asset and debt management and harmonization in the public sector accounting system (Babajani 2006, Damghanian 2009). Legislators have emphasized its use in universities through legal requirements. For example, universities and institutes of higher education were required to design and implement accrual accounting systems by the end of 2013, per Article 38 of the Financial and Trading by-law approved in 2011. The legislator in Article 26 of the Law on the Adjustment of a Part of the Government's Financial Regulation, approved in March 2014, requires ministries, government institutes, and other executive agencies that in cases they use the public funds, to make their financial statements following public sector accounting standards based on accrual accounting.

They are considering the requirement of article 219 of the five-year law of the fifth development plan of the Islamic Republic Iran (2011-2015). The emphasis has been on the "application of operational budgeting" in government agencies (including

1- IFAC Public Sector Committee

universities) in recent years on accrual accounting as its implementing platform. Other provisions that emphasize the use of accrual accounting include Article 217 of the Executive Package, clause (D) of Note 20 of the State Budget Act of 2015, and Article 16 of the Civil Service Management Act and the Executive Bylaw. In this regard, universities as a part of the public sector body need to change their accounting systems. Considering the importance of accrual accounting establishment in universities and the lack of a comprehensive and applied model for its design, the purpose of this study is to determine the backgrounds and requirements of accrual accounting design and implementation in Iranian universities and higher education institutes. Finally, to provide a practical model for its complete design in these organizations. This research has at least two main achievements: (1) identifying the requirements of designing and implementing an accrual accounting system in Iranian universities; (2) providing a comprehensive and applied model for accrual accounting design in Iranian universities. It should be noted that the proposed model (assuming it fits the conditions) applies to other public sector organizations and institutions. Based on the information mentioned above, the theoretical foundations of the research will be briefly summarized. The requirements (prerequisites) of accrual accounting design and implementation and the comprehensive accrual accounting design model will be presented in detail. This study's innovation is that before designing this model based on content analysis, the frameworks' key points were first identified. Then a standard model was designed upon combining the theoretical framework and the researchers' experience.

2. Theoretical Foundations[1]

The International Federation of Accountants and the American Government Accounting Standards Board (1990) defines the accounting basis of the principles for determining the timing of recognizing the effects of transactions for financial reporting purposes. Traditionally, government budgets and allocations have been compiled base on cash, which has led to cash-based sovereignty in government accounting. Also, interest in cash in governmental accounting arises from the need for parliament or other groups to oversee how taxes are collected and how the government pays them in every financial period. However, users of government financial statements require that governments provide information on assets, liabilities, and the effect of current consumption on their net held assets that cash accounting is not designed to provide such information (IFAC Public Sector Committee, 2000). On the other hand, using a (full) cash basis greatly undermines stakeholders' ability to assess government accountability for resources. It does not provide any information on how to manage government assets and liabilities. This feature is the largest (complete) cash -basis constraint (Buti & Giudice, 2002)[2].

Considering the information above, the demand for an accrual basis in the public sector has been increasing. Accrual-based reports are more useful for accountability and decision-making (Iranshahi, 2009; Palot, 2001). Accrual accounting allows users to evaluate the reporting unit's accountability on the resources under its control and make decisions about supplying resources or doing transactions. (IFAC, 2011). Kordestani and Iranshahi (2009), in their research, concluded that accrual accounting has a greater ability to evaluate the effectiveness and outcomes of an organization's performance, and management can better cost the organization's activities. In addition, the accrual basis reflects better the long-term commitment of the organization and the overall financial

1- For more information please refer to the paper titled "Applying Accrual Accounting in Public Sector by Bagherpour et al 2012.
2- Buti and Giudice

situation. Babajani and Baghomian (2007) have also stated that the accountability system's basis is the accounting basis used. The most applicable basis in public sector accounting is the full accrual basis or minimum adjusted accrual basis. Schaik[1] (2004) also considers accrual accounting more favorable than traditional cash accounting because, in accrual accounting, expenditures are compared with performance goals rather than with agreed budgets. From the European Federation of Accountants (2007), the public sector should apply accrual accounting to understand its performance better. Accrual accounting, by providing tools for facilitating performance appraisal, expressing financial status, and evaluating financial flexibility, provides better planning, management, and decision making.

Universities and higher education institutions are no exception. These institutions are among the leading organizations in developing information systems because of their role in producing and disseminating knowledge in societies. Also, considering the dynamics of such organizations' environment and their impacts, universities' accrual basis is important and is necessary for universities to invest in it (Lagzian et al., 2013).

Karbasi Yazdi and Tarighi (2009) showed that using accrual basis in universities over other bases such as adjusted cash and cash basis has advantages such as improving managers 'decision making, providing more transparent cost of services and activities, increasing managers' accountability, and providing the basis for preparing and formulating operational budgeting. Babajani and Madadi (2009) conclude in their research that all university and higher education and research institutes' earnings, except for research revenues, have the necessary and sufficient condition (ability to collect and measure) to use the accrual basis. Also, their costs at the time of recording are long-term capital assets and liabilities, which can be reflected in the basic financial statements.

3. Requirements (Prerequisite) for Implementation and Performance of Accrual System based on the Proposed Model

This section outlines the most important requirements and prerequisites for implementing and performing accrual accounting:

3.1. Acceptance and Support of Senior Manager

The senior manager's attitude and support of implementing and applying new systems and technologies play a key role in their success (Earl[2], 1993). This is done with the necessary knowledge and understanding of new systems and technologies. When managers realize that accrual accounting is in a way that their managerial performance is better reflected, they act better at accepting these changes. This acceptance is very effective in the process of implementing accrual accounting. The belief and management commitment is essential at all stages of system establishment and development. When a senior manager requires himself to establish the system, he will use his best efforts to implement and establish that system (Ketchell[3], 2003).

3.2. Training Staff and Development of Training Programs to Increase Their Awareness and Technical Capability

Sufficient knowledge of the staff is an important factor in adopting and applying new systems and technologies. Users (staff) as users have focused much attention on scholars (Lyytinen & Hirschheim[4], 1987; Earl, 1993; Arabmazar Yazdi et al., 2007;

1- Schaik
2- Earl
3- Ketchell
4- Lyytinen & Hirschheim

Khedmati, 1993). Therefore, employees' technical knowledge of the new system can play a significant role in their acceptance and implementation. Otherwise, it will not be possible to imagine a long life due to the lack of staff familiarity with the new system's goals and attitudes, assuming its proper analysis and establishment. Accordingly, in order to establish accrual accounting, a systematic process of training staff (especially the accounting department) should be provided. It is also important to note that managers and employees of the various departments involved with accounting departments also have a significant role in establishing accrual accounting. Therefore, adequate arrangements, including workshops and training seminars, should be planned.

3.4. Identifying and Documenting Processes and Activities (Cycles)

In view of the explanations mentioned in the sections and considering that determining the cost of activities and preparing the operating budget of universities is the ultimate goal of establishing an accrual accounting system, identifying and documenting processes will be an integral part of the establishment of an accrual accounting system. For example, the main processes of a university may include:

Table 1. University Processes Name

Row	Process Title	Row	Process Title
1	Training management	7	Implementation and follow up of legal issues
2	Cultural and Social Management	8	Monitoring and Inspection
3	Student Services Management	9	Human Resource Management
4	Research and Technology Management	10	Information and Communication Technology Management
5	Strategic Management	11	Asset Management
6	Public Relations Management	12	Financial Resources Management

It is important to note that if in the new process (accrual accounting establishment), processes and activities change, such as organizational structure changes (hereinafter referred to), the processes, assuming the establishment of a new system, must be redesigned.

3.5. Modifying the Organizational Structure of the Accounting /Financial Management Sector in line with Accrual Accounting

Organizational structure is a framework that managers create to share and coordinate their organization's members' activities. Organizational structure is the set of patterns for relationships between members of an organization. This structure is formal because senior managers formally form it (Feizi, 2004). Considering that some accrual transactions need to be recorded and measured on a cash basis, the university must explain individuals' status and their duties in the new system. This will allow the organizational structure of the financial sector to be modified to the expected situation. This modification can include things like designing an organizational chart and describing new tasks for colleagues. The new organizational chart may include financial accounting, management accounting, and treasury (receipt and payment) sectors.

3.6. Suitable Platform for Mechanization of Processes

After identifying and documenting the processes and determining the new organizational structure, it is necessary to provide an appropriate platform for mechanizing the identified activities and processes. This will help establish the accrual accounting system, formulating the cost system of activities, and ultimately the operational budgeting system. Establishing an accrual accounting system can be a factor

to ideally lead the university information systems to integration.

3.7. Necessary Planning for Updating the Annual Accounts Information

Another factor that organizations need to consider for establishing accrual accounting is adequate planning for collecting annual account information. Information such as the book value of tangible fixed assets, intangible assets, accounts receivable and payable by natural and legal persons, or information on storing the employees' severance package. Such a program makes the information ready to be logged in while designing and establishing accrual accounting.

4. Comprehensive Model of Designing Accrual Accounting System

This section presents the process of accrual accounting system design. This process involves determining the content and designing the financial statement format, designing the coding of accounts, reviewing and identifying financial transaction activities, reviewing and redesigning the financial transactions operations flowchart, reviewing the rules and regulations governing each financial transaction activity, determining the title and code of financial transactions for each activity, reviewing the documentation and recording basis for identifying and registering financial transactions in each financial transaction, determining how to record and process financial transactions, determining information fields of extractable reports from each activity having a financial transaction and reviewing the forms used in each activity which has a financial transaction that is described below.

4.1. Determining the Content and Designing the Financial Statements Format

One of the accrual accounting system's important capabilities is providing basic financial statements per generally accepted accounting standards. As the final product of the financial reporting process, these financial statements provide useful information to users, especially external organizational individuals. Accordingly, the financial reporting process should be designed and established in a manner that, by observing relevant rules and standards, provide useful information to meet users' information needs. Therefore, to design an accounting system, one must first identify the existing information needs and requirements and then design the system in such a manner to provide it. Therefore, the sample financial statements and accompanying notes should be designed with due regard to legal requirements, public sector standards, and universities' specific requirements and conditions. Determining the content and format of the financial statements at this stage is the basis for designing the accounting coding as described below.

4.2. Designing Accounts Coding

Coding of financial accounts should be designed for two purposes 1) Observance of Public Sector Accounting Standards in Accounts Registration and Maintenance, and 2) Establishment of Activity Based Costing (ABC) and Operating Budget. This is due to universities' requirements (and other executive agencies) to establish and implement an operating budget. According to the stated objectives and also the existing information needs, the coding of the designed account based on the proposed model has four sections as follows:

A) Colleges and Centers

This model is based on the accountability of colleges and units to other relevant departments, so dedicating the first layer of accounts coding to determine the separate accounting entity (not legal) of the colleges and units will help achieve accountability better. In this regard, it is necessary that the approach of the reporting unit is converted

from paying funds to the affiliated units to regulate an internal memorandum of understanding between the central organization and subsidiaries to allocate modified credit and secure credit before costing at the subsidiary unit as far as possible. Also, in the abovementioned memorandum of understanding, items such as ownership of land and buildings, manpower (number, type of employment, etc.), type and volume of activity, contracting, guidelines and by-laws, bank accounts and their authorized signatories, manner of contacting the center (for example, the selection of the dean of the faculty and how responsive it is) and, finally, manner of providing facilities, rendering services and selling potential products should be considered.

Table 2. Accounts Coding Format

A- Colleges and Centers	**B- Financial Accounts**				**C- Detailed Accounts**	**D- Management Attention Centers**		
Registries Code (Colleges and Centers)	Account Group	Total Code	Subsidiary Code	Sub-Subsidiary Code	Detailed 1 & 2 Code, Natural & Legal Persons	Process Code	Activity Code	Cost Center Code

According to the above, if the university's policy is to separate the affiliated units' entity, it should be considered to formulate its accounting coding. A subsidiary code should be created for each of the offices (colleges and other affiliated units). The above coding (at the beginning of logging in by the accountant of each faculty) is associated with the user code. All related operations are recorded in the accounting system under the same faculty name. This way, the university management can be informed about the status of each of the faculties and affiliated units and the university's overall status (with consolidated financial statements).

B) Affiliated Financial Accounts

Affiliated financial accounts are designed at the four levels of account group, total code, subsidiary code, and sub-subsidiary. This layer of accounts is solely related to financial statement items and their notes. In such a way that the group code of accounts derives from clause 8 of the Accounting Standard, the general section # 1 (manner of providing financial statements), the total code, based on the items forming financial statement, statement of changes in financial position, and account turnover changes in net value, and finally the subsidiary code relate to financial statements notes. Systematically, this part of the account code is interdependent. Their dependence means that, for example, defining and coding at a given level depends on the total account. Looking at the coding design process is always from part to the whole. This procedure is well illustrated in Table 3 (Accounts and Total Accounts Group).

Suppose all the universities in the country follow the unity of procedure in defining account codes at this level of accounts. In that case, it will be easy to make an aggregate accrual balance at the Ministry of Science, Research, and Technology level.

C) Detailed Account

The main part of accounting systems' analysis and design is based on information needs and required reports. In order to further describe the financial transactions and the ability to obtain the required reports, it is necessary for the system to hold another part of the financial information by further defining the affiliate financial accounts. For example, when receiving the cheques receivable, the debtor of the transaction includes,

account group, general account, and subsidiary accounts, respectively includes "current assets", "cash and bank accounts," and "documents and accounts receivable from the exchange operations". It is undoubtedly essential that the accounting system provides the ability to report on a person's information to be tracked. This level of accounts is referred to as a detailed account.

Table 3. Accounts and Total Accounts Group

Group Headings	Permanent Accounts					Temporary Accounts			Other
	1	2	3	4	5	6	7	8	9
Arrangement of Total Account	Current Assets	Non-current Assets	Current Liabilities	Non-Current Liabilities	Equity	Revenue	Expenses	Non-Operating Expenses & Income	Budgetary, Contra & Control Accounts
1	Cash Balance & Bank	Tangible Fixed Assets	Documents and accounts payable from the exchange operations	Long-Term documents and Accounts payable	Net Value	Receivable from the Treasury out of Allocated Credits	Cost of services	Non-exchange Revenues (expenses)	Contra Accounts
2	Short-Term Investment	Intangible Assets	Documents & Accounts payables resulting from non-exchange operations	Other Long-Term Obligations (related to Grant)	Assets Revaluation surplus	Dedicated Revenue	Costs for Employee Compensation	Non-exchange grants received	Budgetary Accounts
3	documents and Accounts receivable from the exchange operations	Long-Term Investment	Advances	Long-term receivable, financial facilities	Foreign Operation, Exchange Difference	Exchange grants received	Cost of using Goods & Services	Increase or decrease in net value resulting from asset replacement	Contracts Control
4	Other documents and accounts receivable	Long-term documents and accounts receivable	Short-term receivable, financial facilities	storing the employees' severance package	Annual adjustment	Other Revenues	Financial expense and rent (properties and asset)	Donated Assets	Opening and Closing Accounts

5	Ongoing treaties	Fixed assets under completion	liabilities associated with assets held for sale		Net changes in a financial position		Grants	Non-exchange Revenues (expenses)	
6	Inventories	Capital orders and prepayments	Documents & Accounts payables resulting from exchange operations		Net value		Social Welfare (Premium and Subsidies)		
7	On accounts, orders, and prepayments	Other non-current assets	Documents & Accounts payables resulting from non-exchange operations		Assets Revaluation surplus		Other expense		
8	Non – current assets held for sale						Cost of depreciation of assets		

Suggested coding includes detailed codes 1 and 2. Unaffiliated financial accounts are generally used for amounts recorded in financial ledgers and for reporting basic financial statements. The detailed account should be designed and coded so that it can be applied dynamically to all accounts. This feature makes it possible for the accounting system, due to using a single account code, to report the net balance of an individual account if individuals have balance in both "Accounts Receivable from Exchange Operations" and "Accounts Payable from Exchange Operations". Depending on how to apply and the management's requested reports, this account can also consist of two levels of detail 1 and 2.

According to Table 4, the "Detailed Accounts Group One" is used in order to create coding for banks, as follows:

1- Code 11 related to the detail group number is assigned to bank accounts.

2. If the bank account belongs to the college or central organization, the relevant code is used. (for example, Central Organization-111, Faculty of Literature-112, etc.)

3. If the relevant account is current, deposit, etc., a number is assigned to it (current-1, short-term deposit-2, etc.)

4. The bank's name to which the relevant account belongs also includes two digits that should be paid attention to by detailed coding (for example, Bank Melli-11, Bank Mellat-12, etc.).

5- If the relevant account is Rials from code 11, it will be allocated from 21 to 99

depending on the currency.

Finally, according to the above information, the "Detail Code 1" number for the short-term Rial Account of the Bank Melli opened by the Faculty of Literature will be 11,112,02,11,11. The following Table (4) indicates the manner of numbering a detailed account 1:

Table 4. Numbering Detail Code 1

Detail Group	Group Name	From Code	To Code	Detail 1				
11	Bank Accounts	11,111,01,11,11	11,999,999,999	Account Row	Bank Name	Type of Account	Faculty	Detail Group 11
12	Warehouses			Type of Warehouse	Faculty	Detail Group 12		
13	Faculties & other Depts.			Registry Code				
14	Employees			According to the Personnel Code of Employees				
15	Students			According to the Student Code of Students				
16	LCs	1700000001	17999999999	Detail Group 16				
17	Seminars & conferences	1811110001	1899999999	Row	Group (Seminar, Conference)	Faculty	Detail Group 17	
18	Tests	19931100001	1999999999	Row	Test Level	Test Year	Detail Group 18	

For the future use of financial information, such as integrating information at a more (external) level than the University, Level 2 is used. Using this level of accounts, accounts are used for natural persons by the national code and legal entities by their economic numbers. This procedure causes the floating of individual accounts is used beyond the level of universities' registries. For example, legal entities working as contractors at the Ferdowsi University of Mashhad also work at other universities in the country with the same economic ID number, and their records will be traceable prior to entering into a contract. Also, this part of the information helps speed up the preparation of seasonal reports. It is anticipated that if all universities follow a united procedure in defining detail codes 2, useful information will be collected from all the universities throughout the country that can be exchanged.

D) The Focus of Management

As mentioned in table 2, the focus centers have three levels: 1) processes, 2) activities (cycles), and 3) cost centers. Creating these levels is to manage better and control the performance of different departments of the university. The administrator of identifying university processes creates the first and second levels (processes and activities). In case of necessary and probable changes in their naming and numbering, the relevant unit will be the only authority authorized to make possible corrections. In case of counting all the university's operational activities (assuming they are mechanized), the financial transactions that occur in each of them will be mechanically entered into the accrual accounting portal. These levels of accounts will be used to calculate the cost of each university's activity.

Level 3 of this layer of accounts is referred to as cost centers and, for example,

consists of training courses (specifically training course name), seminars (specifically seminar name), queuing and staffing organizational units (such as receiving and paying headquarters, management department, security department and other common cost centers including public services). The cost centers designed in the accrual accounting system should be closely related to other subsystems' cost centers, such as payroll. Also, a separate cost center code should be designed for each registry of the registries created.

4.3. Analyzing and Determining (Identifying) the Financial Transactions Operating Activities

This section assumes that university processes and activities are documented. Investigating these processes results in identifying activities that contain a financial transaction. These transactions need to be identified from an accrual accounting approach. The basics for identifying these transactions are documents, forms, accounting standards requirements, guidelines, laws, and regulations governing the university, which are discussed later in this article.

4.4. Reviewing and Redesigning a Financial Transaction Operating Activities Flowchart

The accrual accounting system is designed based on the university's processes and activities. Therefore, identifying the financial transactions of each activity requires reviewing its operations flowchart. Since the university's accounting system is a cash system, existing and documented activities have been formed. Due to the differences between the two systems of accrual and cash accounting, for establishing an accrual accounting system, some of the university's current activities need to be changed, and new activities, including the process of allocating costs to colleges, have to be defined and created. Therefore, it is necessary to take appropriate measures to redesign the financial transaction operating activities' flowchart. An example of the "in-person enrollment" activity from the "University Education Process" set of activities along with the financial transaction identification points has been redesigned as follows:

4.5. Reviewing the Rules and Regulations Governing any Activity with Financial Transaction

Undoubtedly, each activity's laws and regulations guide and determine the type of financial transaction, the point of occurrence, the time and manner of its identification. For example, inactivity number 21014 titled "In-person enrollment of students" financial transaction 3006 (Refund of student tuition - University College) has been identified under the relevant laws and regulations (clause 3 of Article 5 of the laws and regulations of university college- higher educations). It is not possible to return the tuition of the students who have dropped out the education. In exceptional conditions and subject to the agreement of the higher education office of the relevant department, the student giving up participating in the training course, in case the date of their drop out is 10 days before commencement of semester, the paid tuition shall be refunded upon deducting an amount equals to 30%. The tuition will not be refunded after the beginning of the course. Accordingly, the laws governing the activities of the university can be studied in the following three areas.

Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)									Process Name: 21000- Education	
Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction Name	Financial Transaction Code	Financial Effects	Description	Row
									Start	1
									Introducing Course/Seminar /Workshop & informing required documents for the applicant enrollment	2
									Providing required documents and paying enrollment fee	3
						Yes			Receiving and reviewing receipt of required document. Whether it is verified or not?	4
					No				Informing the applicant of his document deficiencies	5
									Receiving the filled worksheet, reviewing satisfying conditions, enrolling and determining student number and delivering student card to the applicant – submitting receipts to accounting dept.	6

Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)						Process Name: 21000- Education				
Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction		Financial Effects	Description	Row
						Name	Code			
						Collecting advances for holding training courses	3001	yes	Receiving receipts from the office advisor	7
									Submitting application of withdrawal from enrollment before course start date	8
									Confirmation of education office advisor and referring to the relevant director	9
									Reviewing and verifying withdrawal application	10
									Reviewing and verifying application & referring to receiving and paying dept.	11
						Refund of student tuition fees - University College	3006	yes	Refund to the applicant for enrollment fee in accordance with the laws and regulations and approval of the Education Dept. advisor and taking into account the rest of the fund to income.	12
									Providing students list	13

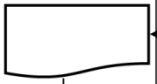
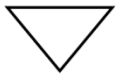
Activity Name (Cycle): 21014 Student In-Person Registration (Applicants)										Process Name: 21000- Education	
Paying & Receiving Dept.	Financial Director	Relevant Director	College Accounting	Applicant (Individual or Organization)	Higher Education Office Advisor	Financial Transaction		Financial Effects	Description	Row	
						Name	Code				
						Considering revenues collected in advance	3013	yes	Receiving final list of students from advisor	14	
									Filing required documents	15	

Diagram (1)Operation Flow

A- National Laws and Regulations

The constitutional law, financial tribunal, five-year development plans, and other relevant laws and regulations in this field

B- Specific Laws and Regulations of Universities and Institutes of Higher Education, Research and Technology

Such as financial and business by-laws of universities and institutes of higher education, research and technology (new and old), public sector accounting system of 2018, circulars No. 15/6271 (dated 21/10/2009) and No. 15/1812 (dated 28/05/2008) issued by the Ministry of Science, Research and Technology and circular No. 51/67/54 (dated 01/04/2003) issued by the Ministry of Economic Affairs and Finance.

C- The University's Internal Rules and Regulations

Such as board of trustees' approvals, the university board of directors approvals, internal university guidelines (including Growth Bylaw, Grand Plan, etc.).

4.6. Determining the Title and Code of Financial Transactions for each Activity with a Financial Transaction

Based on the steps outlined above and the proposed procedure, financial transactions are identified at their occurrence point and coded for recording and processing ease. These transactions can be defined in two levels as follows

A) Transaction group (for example, financial transactions group related to public and private income accounts, salaries and fringe benefits of employees and retirees, expense accounts, inventory accounting, long-term contract accounting, tangible and intangible fixed assets accounting, receipt and payment, opening and closing of Accounts)

B) Financial transaction. Points of occurrence of financial transactions are points in the operational flowchart in which the transaction or financial activity is identified based on supporting documents. For example, by examining the operation flowchart of cycle No. 21014 titled "In-person enrollment of students," which is the subset of the training process, has been identified at the point or time section specified in the chart (after processing under the income system) financial transaction (in steps 7, 12 and 14). As can be seen in step 8, financial transaction code 3001, titled "Collecting advances for holding training courses", which is a subset of the group "Financial transactions related to general and dedicated revenues and ....", has been occurred which the approach of accrual accounting related to that is discussed hereunder.

4.7. Reviewing Documents and Evidence which are the basis for Identifying and Recording Financial Transactions in each Activity with Financial Transaction

Those financial transactions are identified and recorded in registries based on supporting documents (verified and approved by authorized authorities). These supporting documents are the basis for issuing an accounting document. For example, the deposit voucher for the above advances transaction is the basis for issuance of accounting document of transaction No. 3001 titled (advances for holding training courses).

4.8. Determining how to Record and Process Financial Transactions

Financial transactions should be recorded at the relevant accounting registries after identification. In order to create a uniform and similar procedure for recording financial transactions, a guideline should be provided in which the manner of recording accrual accounting of all these transactions is mentioned. This guideline should be formulated regarding what is described in the section "Reviewing the Rules and Regulations

Governing any Activity with Financial Transaction" and the university's general policy based on separating the colleges and units' accounting entity. If the procedure is based on the accounting entity's separation, the financial transactions between these centers will be recorded separately and independently at the accounting registries. For example, as for financial transaction of paying lecturer wage in which classes are held at the college, and the center pays for it (financial transaction code 6048), accounting records are provided under Table (5). As shown in the recording above, the center pays the lecturer's wage on behalf of the college, and subsequently, its debts are deducted from the college's current budget. Meanwhile, according to the debit/credit note, this payment is notified to the relevant college. The college identifies the cost on the one hand and, on the other hand, deducts their claims from the center being the share of the current budget. In this connection, the rules and regulations governing this activity are in Table 6, and the accounting registration method is described as follows.

Table 5. Accounting Registration Methods Guidelines in Central Organizations Registries and Other Units

Financial Transaction: 6048) Paying Lecturer's Wage Registry: Central Organization					
Manner Setting Prices	**Credit**	**Debit**	**Cost Center**	**Detail**	**Relevant Accounts: General, Subsidiary, Sub-Subsidiary**
Debit/Credit Note		*		Colleges, Research Centers and Other Units	11, 13,31) Documents and accounts payable from the exchange operations- Accounts payable from short-term Rials transaction
	*				11,12,11) Cash and Bank Inventory - Banks - Rial
According to 3% of Costs (cost document summary)	*				23, 12,32) Documents and accounts payable from the non-exchange operations- Short-term accounts payable – withholding tax
Office: Colleges and Units					
Manner Setting Prices	Credit	Debit	Cost Center	Detail	Relevant Accounts: General, Subsidiary, Sub-Subsidiary
		*	Department		73,16,30) Cost of using goods and services - fees for contractual services - tuition
Debit/Credit Note	*			Central Organization	11, 15,13) Documents and accounts payable from the exchange operations- Accounts payable from short-term Rials transaction

4.9. Determining Information Fields of Reports that can be extracted from any Activity with Financial Transaction

One of the goals of accrual accounting is to prepare and present various management reports that can help managers monitor and make decisions better. Accordingly, for all financial activities, the extractable reports and related information fields should be determined. This can provide the basis for establishing the required information system. For example, information extractable from Activity Number 21014 titled "In-person enrollment of students" has been provided in Table No. 6.

Table 6. Rules and Regulations Governing Transaction

Row	Rules Description	Title
1	Payment of research fees, tuition fees, author's fee, wage, attendance fees, counseling fees, etc. The subject of these guidelines is subject to approved by-laws. It can be paid up to a maximum of 50% upon the discretion of the head of the earning unit and in exceptional cases, with the proposal of the head of the department and with the agreement of the head of the institution or authorized authority, up to 100% in addition to the amounts inserted in the approved by-laws.	Financial and Transaction Bylaw of the University: (Attachment 1, Clause 1, Article 6)
2	The tuition fees for teaching staff are set by the Ministry each semester up to the determined maximum. Anyway, the amount of the member's tuition fee shall not exceed the maximum set by this Note.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Note 1 Article 32, Chapter 4)
3	The Institute may use the services of its faculty members or other universities and institutes of higher education, research, and technology with the written consent of the institution of their place of employment for teaching or research in exchange for payment of tuition or research fees under the provisions of this article. " 62 " of this by-law.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Article 32, Chapter 4)
4	The Institute may use the services of those who have an academic degree and are not faculty members whose academic competence in one of the academic majors has been approved by a committee composed of the Institute's Head Representative and the Educational Assistant of the offeror college and director of relevant department as "lecturer" for teaching against paying tuition fee according to Article 63 of this by-law.	Employment by-laws of faculty members of universities and Institutes of Higher Education, Research and Technology: (Article 32, Chapter 4)
5	In case the employees have to perform services out of the office on request of the organization, according to the by-law approved by the cabinet upon the recommendation of the Organization, some amounts can be paid under overtime, research fee, tuition fee, wage, and author's fee to each employee, total amounts paid as overtime and tuition fee to each employee shall not exceed the maximum (50%) of their fixed salary and bonuses. In each organization maximum of 20% of employees, who work overtime more hours, are exempted from the limit of 50 %.	Civil Services Management Act (clause 9, article 68, chapter 10)

Table 7. Extractable Information from the Activity In-Person Enrollment of Students

Row	Title	Row	Title
1	Workshop Title	5	Lecturer Name
2	Workshop Tenure	6	Number of Participants
3	Workshop Holding Period	7	University Revenue
4	Workshop Holding Place		

4.10. Reviewing and Modifying the forms used in any Activity with Financial Transaction

Since the forms used in each cycle/activity are a necessary tool for recording and gathering the information needed to prepare extractable reports and eventually establishing the information system required for the university (including accrual accounting) and also taking into account that the forms available have been designed based on the cash system, all existing forms must be reviewed. The necessary corrections (to achieve the goals above) are made.

5. Conclusion

The accrual accounting system can enhance the effectiveness, efficiency, and accountability of the university. Therefore, this study sought to provide a

comprehensive and practical model for designing and establishing the system above in universities while explaining the prerequisites and required framework. The system above has been designed appropriate to Iranian universities' conditions and environment and has proven its function and effectiveness in practice. This model can be used as a guide for designing the system above in other operating systems (public sector). By presenting the model above, we can take a small step towards increasing transparency, accountability, efficiency, and effectiveness in the public sector, especially the university.

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Research Article

The Effect of Institutional Investors on Dividend Payout

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Abstract:

The dividend payout policy is one of the most important issues for managers and stakeholders. The manager should propose to General Shareholders Assembly the amount of the earnings to be distributed and how much to invest in retained earnings. Although dividend payout directly benefits shareholders, it affects a firm's ability to accumulate earnings to take advantage of growth opportunities. The dividend payout policy is also one of the factors that may affect the firm's ownership structure. The purpose of this study is to investigate the effect of institutional ownership on dividend payout policy. Using the systematic elimination method, a sample of 105 companies listed on the Tehran Stock Exchange from 2009 to 2016 is selected. Moreover, multiple regression analysis with panel data is used to test the research hypotheses. This study's findings show that increasing the ownership of mutual funds and other institutional shareholders increase dividend.

Keywords: Institutional Ownership, Mutual Funds, Dividend Payout Policy.

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1. Introduction

The regulatory effect of institutional ownership on corporate governance has been extensively examined in recent years. Some research streams have focused on the impact of institutional shareholders on firm performance. Smith (1996) shows that high levels of institutional ownership lead to shareholders' reaction to buy and sell shares, which, in turn, can increase the wealth of shareholders. Woidtke (2002) finds a positive relationship between the corporate Tobin's Q ratio and stock ownership. Centralized ownership in the form of independent entities can increase the market value and return on assets. According to Ferreira and Matos (2008), companies with higher stock ownership held by independent and external entities such as insurance companies have higher firm value. Giannetti and Laeven (2009) find that firm value increases with increasing institutional shareholders' ownership. There are different views on how institutional shareholders influence corporate dividend policies. The two dominant views are agency theory and signaling theory. According to agency theory, institutional shareholders pressure companies for dividend payouts (Zeckhauser and Pound, 1990) because the managers may compromise this free cash (Jensen, 1986). In other words, institutional shareholders prefer to distribute free cash flows in the form of cash dividends to reduce related agency costs and force managers to distribute dividends due to their influential position. According to these assumptions, given that the retained earnings are a source of internal financing, a dividend payout can lead to a decrease in liquidity and external financing.

It can increase capital market supervision (for example, stock exchange, capital suppliers) over the firm (Roohi et al., 2011). According to the signaling theory, dividends for the market contain new information, and managers can use dividends to signal and deliver good news to shareholders (Aharony and Swary, 1980). Signaling theory states that as dividends increase, institutional investors conclude that managers have sufficient confidence in the continuation of future profitability. In this situation, shareholders, who were previously assumed not to know as much about the firm's financial situation as managers, react to the increase in dividends and increase the stock market value. However, if managers believe that long-term profitability will decrease, they reduce cash dividends. Therefore, institutional shareholders respond by trading the firm's stock at a lower value (Zeckhauser and Pound, 1990). While much research has been done on ownership structure, little attention has been paid to the institutional shareholders' role, especially the largest shareholder, that may affect the firm's dividend payout policies (Razavi et al., 2015). Large shareholders naturally own the majority of the firm's stock and, as a result, will have a major influence on the firm's decisions, including dividend payout policies (Mancinelli and Ozkan, 2006). Recent studies also show that mutual funds are able to monitor the firm. Yuan et al. (2009) show that senior managers of financial institutions and the board of directors of mutual funds may influence firm managers, while other institutions such as insurance and brokerage firms do not have such features.

Other studies show that institutional shareholders control changes in internal shareholders' ownership and reduce corporate incentives for fraud (Aggarwal et al., 2014). The role of institutional shareholders in dividend policies stems from the institutional shareholder preferences to distribute cash flows in order to reduce agency costs (Sarlak and Kalvani 2015). Given the influential position of the institutional shareholder, this group of owners is expected to influence the firm's financial policies, including dividend policy. Accordingly, institutional shareholders may disagree with the manager's tendency to accumulate more cash flows and, due to their voting power, force managers to distribute dividends (Etemadi et al., 2014). Based on agency theory, a hypothesis in justifying the financial literature's dividend behavior is presented under

the title of the theory of conclusion. The theory of conclusion is based on the free cash flow theory. Based on the free cash flow theory, opportunistic managers use free cash to invest in projects and activities that increase their reputation. The theory of conclusion states that dividend payout is the result of the quality of corporate governance. In fact, firms that do not respect shareholders' rights suffer from opportunistic management as managers have influential power, and shareholders have no oversight.

In this case, the managers try to keep the cash instead of distributing it among the company's shareholders. Therefore, a lower dividend payout is the result of weaker governance. However, if shareholders have enough power, they can influence dividends. The theory of conclusion also states that regulatory shareholders can use their power to remove managers in order to reduce cash and cash dividends. The theory of conclusion states that a firm's owners prefer a higher dividend payout to reduce free cash flows under internal investors' control (Firth et al., 2016). The firm's liabilities for dividend payout impose a disciplinary role on companies, and this disciplinary role helps to separate control from ownership. Dividend payout also reassures shareholders that they are more eager to buy the firm's stock (Cheffins, 2006). According to the theoretical foundations and considering the theory of conclusion, this study investigates the impact of institutional shareholders on dividend payout. However, considering the impact of institutional shareholders on dividend policy in previous studies, this study intended to examine the specific type of institutional shareholders, i.e., investment funds and other institutional shareholders such as insurance companies and brokerages, on dividend policy to determine the impact of the institutional shareholders on the dividend payout. Therefore, the research's main question is whether institutional ownership has a significant effect on dividend policy or not?

2. Research Methods

The current study examines the relationship between different variables using multiple regression models with panel data. Excel and EViews software are also used. The chow test and the Hausman test are used to determine the structure of the data. The F-statistics is used to test the whole regression model's significance, and the t-statistics is used to test the coefficients of the independent variables. The statistical population of this research is all companies listed on the Tehran Stock Exchange. Moreover, the period of this research is from 2009 to 2016. For sampling, the systematic removal method is used, the conditions of which are defined as follows:

1- In order to be comparable information, the firm's fiscal year should be ended in March.

2. Firm's share has been exchanged at least once every three months during the period under investigation.

3- In order to be homogeneous information, firms should not be included in financial intermediation, insurance, and leasing industries.

4- Required data should be available.

The present study's required data are collected from corporate financial statements, audited accompanying notes, weekly reports, monthly journals, and stock exchange yearbooks from 2009 to 2016. For this purpose, the information published by the Tehran Stock Exchange and the software of Rahavard Novin and other related Internet sources is among the data collection tools in this research.

3. Explaining and Measuring the Variable

Dependent Variable:

Dividend payout: In this study, the following criterion has been used to calculate the dividend payout, according to Firth et al. (2016):

Dividend ratio: equal to the ratio of cash dividend per share to book value per share

Independent Variable:

Two criteria of ownership measure the institutional shareholder:

Mutual Fund Ownership: Equals the number of shares held by Mutual Fund companies divided by the total number of shares issued.

Other institutional owners: equal to the number of shares held by other institutional owners (banks, insurance companies, and brokerage) divided by the total number of shares issued.

Control Variables:

Free cash flows: Net operating cash flows (profit before interest, tax, and depreciation less net capital expenditures (capital expenditures are calculated from the difference between tangible fixed assets this year compared to the previous year) divided by total assets

Free Cash Flows: Net Operating Cash Flows - Net Capital Expenditures / (Total Assets)

Growth opportunities: Percentage of annual changes in sales revenue

Growth Opportunities = This Year's Sales Income - Last Year's Sales Income / (Last Year's Sales Income)

Investment opportunities: Asset market value / Asset book value

Asset market value: The market value of ordinary shares plus the book value of total debt

Ownership concentration: Total percentage of shares in the hands of 10 large and non-governmental shareholders of the company

Managerial ownership: The number of shares in the hands of all board members divided by the total number of shares issued.

Company size: Natural logarithm of total assets

Financial leverage: the ratio of total debt to total assets

Return on Assets: The ratio of net profit to total assets

Stock returns fluctuations: equal to the standard deviation of the annual stock daily returns

3.1. Research Hypotheses:

This research includes two hypotheses as follows:

Hypothesis 1: Increasing the ownership of mutual funds increases the dividend

Hypothesis 2: Increasing the ownership of other institutional shareholders increases dividend

The following model is used to test research hypotheses:

$$DIV_{i,t} = \alpha_0 + \alpha_1 MF_{i,t-1} + \alpha_2 BIS_{i,t-1} + \alpha_3 FCF_{i,t-1} + \alpha_4 HERF10_{i,t-1} + \alpha_5 MAO_{i,t-1} + \alpha_6 MB_{i,t-1} + \alpha_7 SIZE_{i,t-1} + \alpha_8 LEVE_{i,t-1} + \alpha_9 ROA_{i,t-1} + \alpha_{10} VOL_{i,t-1} + \alpha_{11} Growth_{i,t-1} + \varepsilon_{i,t}$$

$DIV_{i,t}$: Dividend ratio

$MF_{i,t-1}$: Mutual Fund Ownership Ratio

$BIS_{i,t-1}$: Ownership ratio of other institutional owners (banks, insurance companies, and brokerage)

$FCF_{i,t-1}$: Free Cash Flows

$GROWTH_{i,t-1}$: Growth Opportunities

$HERF10_{i,t-1}$: Concentration of ownership

$MAO_{i,t-1}$: Ownership ratio of board members
$MB_{i,t-1}$: The ratio of the market value of assets to the book value of assets
$SIZE_{i,t-1}$: firm size
$LEVE_{i,t-1}$: Financial leverage
$ROA_{i,t-1}$: Return on Assets
$VOL_{i,t-1}$: Stock Returns

Based on the Chow test results, the structure of the data is the panel, and according to the Hausman test results, the fixed effects method is accepted. Applying Wooldridge's autocorrelation test and modified Wald homoscedasticity test, the classical hypotheses of no-autocorrelation and variance homogeneity are performed for the research model. The results show that the model faces the problem of autocorrelation and heteroscedasticity. Therefore, the model estimates the generalized least squares (GLS) regression method. The results of the model estimation are reflected below:

Table 1. Estimation Results of Model

p-value	statistics t	Standard deviation	Coefficient	Variable
0.001	3.167	0.013	0.042	MF
0.002	4.295	0.002	0.011	BIS
0.055	1.915	0.001	0.001	FCF
0.000	4.914	0.001	0.008	HERF10
0.754	0.312	0.002	0.001	MAO
0.854	-0.183	0.004	-0.001	MB
0.002	-3.088	0.001	-0.006	SIZE
0.000	-3.516	0.002	-0.010	LEVE
0.000	4.363	0.003	0.014	ROA
0.529	0.628	0.001	-0.001	VOL
0.061	1.874	0.001	0.002	GROWTH
0.000	6.883	0.034	0.2322	C
20.152	statistics F	0.76	R-squared	
0.000	Prob (F-statistic)	0.72	Adjusted R-squared	

Regarding the p-value obtained for the F-statistic (p-value <0.05), the whole model is significant. This indicates that not all regression coefficients are zero simultaneously. The adjusted R squared equals 72 percent. It means that independent variables explain 72 percent of the dependent variable changes. As an indicator for testing the first hypothesis, MF's coefficient is positive and significant, stating that increasing the mutual funds' ownership increases the dividend. Therefore, the first hypothesis of this study is confirmed at a 5 percent significance level. As an indicator for testing the second hypothesis, BIS's coefficient is also positive and significant, stating that increasing other institutional shareholders' ownership increases dividend. Thus, the second hypothesis of this study is confirmed at a 5 percent significance level.

4. Research Findings

Based on the first test findings, it can be concluded that as ownership of investment funds increases, dividends increase. Corporate governance is a tool for balancing shareholders and management, reducing agency problems, and reducing the likelihood that managers will pursue less-than-desirable dividend policies. According to agency theory, institutional shareholders pressure companies to dividend payouts because insiders may compromise the free cash amount. In other words, institutional shareholders prefer to distribute free cash flows in the form of cash dividends to reduce related agency costs and force managers to distribute dividends due to their influential

position. Dividends reduce agency costs by distributing the free cash flow invested in unprofitable projects by management.

Based on the second test findings, it can be concluded that as ownership of other institutional investors increases, dividend increases. There are many reasons why managers tend to maximize the interests of large corporate shareholders. First, large shareholders, due to their high percentage of ownership, have more voting rights in the company and can control the company's policies and decisions. Second, the presence of large shareholders reduces agency problems in the company and reduces agency costs. The presence of large shareholders reduces the level of information asymmetry in the company. On the other hand, internal shareholders use the dividend policy as a signal to improve the company's governance system. As a result, firms, which are controlled by internal shareholders, are always looking to increase dividends as a sign of improving firm performance.

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